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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

MONTHLY
CONSULAR AND TRADE
REPORTS

MAY, 1908

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NOTE.—A series of articles by Special Agents Carden, Clark, and Dennis and various consular officers on cotton textiles, agricultural implements, locomotives, machinery, and tools in European countries have been withheld from this Monthly and will be issued in monograph form.—B. of M.

MONTHLY CONSULAR *and* TRADE REPORTS

Washington, D. C.

MAY, 1908

No. 332

FOREIGN COMMERCE.

MEXICO.

MONTEREY AS A DISTRIBUTING POINT.

OPPORTUNITIES FOR THE SALE OF AMERICAN GOODS IN THE REPUBLIC.

Special Agent A. B. Butman sends from Monterey, in northern Mexico, an account of business conditions there and tells of the opportunities for the extension of American trade, as follows:

I am told that Monterey is called the Chicago of Mexico. With a population of about 90,000, it is an active commercial city, and one of the largest distributing points of the Republic. The territory which is supplied from this center includes the State of Nuevo Leon, of which Monterey is the capital, portions of the States of Tamaulipas and Coahuila, and, in fact, the greater part of northern Mexico.

The facilities for distribution are good. The Mexican Central Railroad runs southeast to the important Gulf port of Tampico, 322 miles distant, and northwest to Ciudad Juarez, opposite El Paso, on the Rio Grande. The Mexican National lines lead eastward to Matamoros, opposite Brownsville, north and east to Nuevo Laredo, and north to Ciudad Porfirio Diaz, across the river from Eagle Pass.

The fact that Monterey is so important a railway center has added great impetus toward the establishment of trades and industries, and the city is now the most important manufacturing town in northern Mexico. Its people are progressive and show wide activity in business affairs, while the vast manufacturing interests afford employment to thousands whose purchasing capacity may well be taken into account.

IMPORTANT IMPROVEMENTS—INDUSTRIAL ESTABLISHMENTS.

One of the most complete sewerage systems known, the automatic flush tank system, is being installed throughout the city, which when completed will place Monterey in first rank as regards sanitation. A splendid new water system has been recently installed and will be placed in operation upon the completion of the sewerage system. Contracts for paving the principal streets have been entered upon, which provide for asphalt pavements for the central streets and brick in other instances, the latter over a concrete foundation. The old mule cars have been taken off the lines and replaced by the modern electric-car service, which system is being enlarged by the addition of new circuits. Real estate values are firm and advancing, considerable building is going on, and all in all the appearance of this northern Mexican city is one of prosperity and advancement.

Among the industries of principal importance may be mentioned three large smelters, foundries, and the largest iron and steel plant

in the Republic, capitalized at \$10,000,000 (Mexican) and employing under full capacity 2,000 hands. Ore for the consumption of this plant is secured at Golondrinas, 120 kilometers (kilometer=0.62 of a mile) from the city on the National Railroad; also from Monclova, in the State of Coahuila, and is of high grade, running to 68 per cent. The output includes pig iron, angle iron, T iron, grey iron castings, brass and steel castings, channels, steel I beams, mild steel bars, octagon drill steel, and steel rails, 12, 16, 20, 25, 30, 40, 50, and 60 pounds. Common laborers in the industry receive a wage of \$1.50, skilled workmen up to \$8 (Mexican) per day. The output of the plant is in no wise sufficient to meet the demands of Mexico's iron and steel markets, which afford large opportunities for American manufactures of the same order.

WOOLEN, COTTON, CEMENT, BREWING, AND OTHER INDUSTRIES.

Other industries include woolen and cotton mills, candy factory, and brickyards. A cement manufactory has been recently established 38 kilometers north of Monterey. The plant is complete and modern in every respect and is equipped with the best machinery for crushing, grinding, and burning by the most improved methods. The raw material used is from properties owned by the company, which is known as "Cementos Hidalgo, S. A." The rock-built water reservoirs of the plant have a capacity of 3,000,000 gallons, while the capacity of the factory is stated to be 500 barrels daily. The laboratories are in charge of expert American chemists.

The "Cuauhtemoc Brewery," perhaps the largest and most important brewery in the Republic, is situated in Monterey, and is a very successful commercial enterprise. The establishment covers 2,000,000 square feet of land with an admirably well-equipped factory, having a capable output of 100,000 bottles per day, manufactured according to the most modern processes. The fermentation department contains 75,000 barrels and the boiling department 375 barrels. Electricity furnishes the motive power of 2,000 horsepower. Employment is given to 1,200 persons. The output for the last year was valued at \$6,000,000 Mexican.

The varied industries as enumerated above show that this northern city is not dependent upon any one enterprise or line for commercial activity, but that mining, smelting, and manufactures have assumed proportions which contribute each a very considerable share toward the present importance and the probable future growth of the city.

I am told that the tonnage brought to Monterey by the railways centering here is second only to that carried by the railways to one other city in Mexico, and that the capital city.

WHAT THE ESTATE OWNERS BUY.

Monterey being a center for wholesale trade, I would mention perhaps first of all the haciendados, or farmers, who come into the city in large numbers for needed supplies of every character. The haciendado is a large buyer and as scientific agriculture advances and the personal requirements of the laborer grow more advanced, he will without doubt become one of the best buyers in Mexico. There are in the Republic about 10,000 haciendas or farms, with which the same number of usual farms in the United States may in no wise be compared. All Mexican farms cover large estates, 1,000 acres being con-

sidered small and the average size varying from 10,000 to 500,000 acres. I am told of the existence of one hacienda in the northern State of Durango comprising 10,000,000 acres.

It must not be understood that the Mexican farmer has an amount of money to spend in comparison with the number of acres that he owns, as in the case of the average American farmer, but the purchasing power of the Mexican hacendado is large and his requirements necessarily considerable. The headquarters of a Mexican farm are in themselves a small village. There is a church, school, park, and large business offices. The farmers have their managers, submanagers, bookkeepers, timekeepers, cashiers, and hundreds of laborers, while the home of the owner or resident manager is large and fine. In addition to farming machinery and implements, wagons, hardware, paints, roofing, well-drilling machinery, windmills, weighing scales, blacksmith and carpenter tools, plantation railways, etc., needed for use on the estate, the farmer will buy office furniture, typewriter, and safes, house furniture, sewing machines, and phonographs, and since the Mexican hacendados may in fact be considered dealers themselves, they must purchase by the wholesale certain supplies necessary for the outfit and maintenance of their small army of dependents.

AGRICULTURE ADVANCING—AMERICAN IMPLEMENTS PREFERRED.

The agricultural industry is advancing rapidly at the present time. I am informed that a great deal of new land is being placed under cultivation this year, and from indications at the present time the outlook for a good agricultural season is of the brightest. Agricultural machinery and implements, also fencing wire, are in brisk demand, and good sales are being made of such daily by the wholesale dealers in Monterey. Regarding mining machinery, hardware, and edged tools, the American products hold the market here as elsewhere throughout the Republic. With very few exceptions American machinery is preferred. German manufacturers have placed a perfected gas engine on this market which is selling well. It may also be added that manufacturers of the same country are making strenuous efforts to secure the Mexican hardware trade, not without a growing degree of success. It is necessary that American hardware manufacturers be alive to this competition.

There exists a good local demand in Monterey for building materials, considerable building is at present under way, and contractors are receiving new contracts. Sanitary appliances of all kinds are required, also electric wire, fittings, and supplies.

PAPER AND CARDBOARD—WOOLEN PIECE GOODS AND CLOTHING.

Another line in which Germany seems to be successfully competing is the paper trade, a success due to the matter of price. German-made copying tissue is offered at a little more than one-half the cost of American-made tissue, and German commercial envelopes at approximately one-third less than the American. German manufacturers also make a very low price on all kinds of cardboard. I have been given the following quotations by a dealer in this city: 20 by 30 tissue, copying, white, cost f. o. b. Hamburg 20 marks (mark=23.8 cents) and 30 marks, respectively, according to grade, per 10 reams; cardboard, good quality, 19 marks 20 pfennigs per ream (100

pfennigs=1 mark); blue envelopes, 5 marks 20 pfennigs per 1,000; white envelopes, 6 marks 10 pfennigs per 1,000; a 20 per cent discount is allowed on envelopes. [Samples of each of the above articles were forwarded to the Bureau of Manufactures.] Domestic manufactured paper also enters into competition, although greatly inferior in quality. In print paper (newspaper) our only competition is with the native product.

Woolen piece goods are principally secured from England, with a small percentage from France. These goods are laid down in Mexico at a lower price than the American. Men's ready-made clothing is supplied by American houses and is well liked both for cut and style. Underwear and hosiery are principally furnished by Germany and France; shirts, collars, and cuffs by the United States; ties by the United States and England, and straw and felt hats by manufacturers of the same countries. English-made straw hats retail here for from \$6 to \$8 each, Mexican. American shoes predominate in the market, selling from \$10.50 to \$15 Mexican. The demand for the modern shoe is a growing one in Mexico, since the peons are coming more and more to adopt this style of footwear throughout the country. The custom is especially noticed in the northern cities.

A CHEAPER SHOE WANTED—RETAIL PRICES.

I would suggest that there is a need for a cheaper American shoe than is now on the market to supply the peons, whose purchasing power is of necessity very limited. I am informed that there is at the present time a considerable influx of shoes here from Spain. The Spanish shoe is handmade, wears well, and sells readily to the many who can not afford to purchase the American shoe at present on the market.

The wholesale markets of Monterey are especially good channels for the canned-goods trade, owing to the miners and hacendados of the north for whom they are the center of supply. English, Spanish, and French canned products are met in competition with our own. It is stated that French and Spanish goods are showing perceptible gains of late, owing to price. Sales of American whiskies are growing, but California wines have little chance of advance, since they meet in competition French clarets, which are priced in bulk to dealers here at 250 francs (\$48.25) per ton (4 barrels to the ton) and bottled locally.

The following list shows the retail prices, Mexican, of certain food supplies obtaining at this writing, March 3, in Monterey:

Tomatoes, per kilo (2½ pounds)-----	\$0. 45	Cheese, American, per kilo-----	\$1. 20
Corn meal, per kilo-----	. 15	Cheese, Swiss, per kilo-----	1. 40
Irish potatoes, per kilo-----	. 15	Citron, per kilo-----	2. 25
Eggs, each-----	. 04	Beets, per bunch-----	. 03
Butter, best, per package-----	. 90	Turnips, per bunch-----	. 03
Butterine, American, per package-----	1. 10	Pears, each-----	. 03- . 05
Lemons, each-----	. 01- . 03	Dried fruit, per kilo-----	1. 00
Salt, per pack-----	. 05	Sausage, per kilo-----	1. 10
Mexican lard, per kilo-----	. 75	Oranges, each-----	. 02- . 05
Ham, per kilo-----	1. 10	Frijoles, per kilo-----	. 15
Cocon, red, per kilo-----	1. 30	Cabbage, per head-----	. 10- . 20
Coffee, Cordova, per kilo-----	. 50	Potatoes, Mexican, per kilo-----	. 16
Coffee, Caracolillo, per kilo-----	. 60	Sugar, per kilo-----	. 24
Chocolate, Mexican, per cake-----	. 40	Green corn, per ear-----	. 03
Carrots, per bunch-----	. 03	Pineapples, each-----	. 25- . 35
Bananas, per dozen-----	. 35	Onions, per kilo-----	. 35
Pure ground coffee, per kilo-----	. 80	Lentils, per kilo-----	. 28
Flour, best, per 10-kilo sack-----	2. 60	Mexican rice, per kilo-----	. 28
String beans, per kilo-----	. 30	Cucumbers, each-----	. 15
Beans, American, per kilo-----	. 40	American rice, per kilo-----	. 40
Radiates, per bunch-----	. 03	Bananas, per dozen-----	. 15- . 20

SUGGESTIONS TO INCREASE AMERICAN TRADE.

Mexico assuredly offers a splendid opportunity to the American manufacturer who desires to introduce his products in the Republic. To the would-be exporter and to the one who, having already gained a foothold, naturally desires to increase sales, the following suggestions as gleaned from the testimony of many in business circles may not prove untimely: Two great facts which should be considered perhaps first of all, or at least must ever be borne in mind, are that the seller is an Anglo-Saxon, the buyer a Latin, and that as far as customs, language, ideas, ways of living, business methods, etc., are concerned, the two races are nearly opposite. It is not intended to infer that the American business man encounters any insurmountable obstacle owing to the differences in the two races; on the contrary, if he will conform to certain rules and customs, simple in themselves, placing his Mexican export department in harmony with the ways and ideas of the Mexican people, he will find no more difficulty here than he finds in our own country. The fundamental principles of selling goods in Mexico are not different from those in the United States, but the difference lies in the details of those principles which should be so arranged as to fit the conditions.

Spanish is the language of Mexico, and the salesman who undertakes to sell American goods in this country should not only speak that language, but, to insure the largest measure of success, he should know something of the people, their customs, peculiarities, and their social as well as business ideas. Catalogues and literature for circulation in Mexico should be printed in Spanish, should state the cost of each article in Mexican money (pesos and centavos), and should, in addition, furnish such information as will enable the prospective buyer to arrive at the cost of the commodities offered in Mexican money laid down in this country. The American manufacturer should register his trade-marks in Mexico. The short, curt business letter sometimes sent out by American houses does not always fit the Latin-American idea, however good the results obtained from like correspondence in the United States.

Regarding credits in this country, the American commercial agencies have branches in the Republic through whom full reports on buyers may be obtained. Our European competitors show every consideration as regards this matter to the Mexican buyer. The financial and banking laws of Mexico are on a solid basis, and instances of failures are exceptional.

I am forwarding a list of various importers and dealers in Monterey, Aguascalientes, Guadalajara, and San Luis Potosi. [On file at the Bureau of Manufactures.]

AMERICAN COLLARS AND CUFFS ARE POPULAR.

Mr. Butman, writing from Mexico City, furnishes the following facts on the collar and cuff market in Mexico:

American made collars and cuffs predominate on this market, and are in increasing demand. In competition are found French, German, and English lines, also a collar of domestic manufacture which is, however, of lower grade and not sold to any appreciable extent. It is stated that perhaps larger sales of European goods are in the "standup" and "wing" styles, although the "turndown" of European make is carried by dealers and sold to some extent. It is claimed

regarding the double or turndown collar that the American goods furnish the best fitting qualities. This is doubtless due in part to the extensive use of American ready-made shirts, which find a very good market in Mexico.

French and German houses use both the metric and English systems—centimeters and inches—in marking their goods, but it is inferred from interviews with various haberdashers that the English method is satisfactory and perhaps sufficient. European made collars are packed in paper boxes holding one dozen, in the same manner as the American.

French collars retail in Mexico at $12\frac{1}{2}$, 15, 20, and 25 cents gold each according to quality; German and English collars sell at 25 cents each or \$2.75 per dozen. The three brands of American collars noted on the market here are sold at $12\frac{1}{2}$, 25, and $37\frac{1}{2}$ cents each.

[Samples of European collars sold in Mexico City, which were forwarded by Mr. Butman, will be loaned to American collar makers and exporters by the Bureau of Manufacturers.]

INDUSTRIAL AND TRADE REVIEW.

BUDGET FOR THE NEXT YEAR—IMPORTS AND EXPORTS—A SMALL SURPLUS.

The budget of the Mexican ministry for the fiscal year ending June 30, 1909, estimates a surplus of \$88,171 in United States currency, which is the money quoted in this article. Provision is made for increasing the salaries of all those Government employees whose salaries were not increased during the current year; also for the establishment of old-age pensions.

The total exports for the fiscal year show a balance of \$7,131,000 over imports. But the national debt is almost all held abroad, and on that \$11,679,000 interest is paid each year. Besides that the loans of several of the individual States and municipalities are held abroad, and the railroads remit over \$12,000,000 annually to their foreign bond holders, and the banks also send large sums abroad in dividends. This difference between the amount received and the amount sent abroad is said by the financial minister to be made up by the continued investments of foreign money in the country. But the recent financial stringency lessened these investments, caused an increase in the interest rate, and a postponement of new undertakings, greatly to the injury of business generally.

PRINCIPAL ARTICLES OF EXPORT.

Silver was the product of most value exported during the year, and vegetable products were second in value, and other mineral products third. Vegetable products were exported to the value of over \$34,000,000 American money, and animal products to the value of about \$5,000,000, and manufactured products to the value of \$1,829,000. The most important products of the Mexican mines next to gold and silver are copper and lead. In the last fiscal year about \$10,000,000 in value of copper were exported, and \$3,500,000 worth of copper ore; lead to the value of \$1,500,000, and lead ore to the value of \$330. Zinc was exported to the value of \$1,000,000 and antimony to the value of nearly \$700,000. Ixtle fiber, chicle (chewing gum), heniquen, garbanzos (chickpeas), and rubber are the prin-

cial factors in the vegetable products exported. The exports of coffee and tobacco both declined. In the case of coffee it was due to a bad crop, and in the case of tobacco there was an increased home consumption, but the manufacturers of cigars do not seem to be able to compete with the more celebrated Cuban brands. The export of undressed hides advanced from 10,800 tons in the previous year to 13,220 tons last year, with a value of \$4,316,000. Exports of sugar increased from 5,072 tons in 1906 to 7,049 tons in 1907. The exports of cotton seed and cotton paste continue to develop, the aggregate in the fiscal year 1907 amounting to 21,929 tons of the value of \$409,000. There was an increased export of palm-leaf hats, the total value last year reaching \$370,000.

GOLD AND SILVER PRODUCED—IMPORTS OF ALL KINDS.

Production of gold in the last fiscal year was to the value of \$17,793,000, an increase of \$78,000 over the preceding year. Silver was produced to the value of \$37,515,000; but the exports of silver aggregated in value \$48,597,000, which included Mexican coin to a large amount. The imports during the year 1906-7, as compared with those of 1905-6, were as follows:

Articles.		
Animal substances.....		
Vegetable substances.....		
Mineral substances.....		
Textiles.....		
Chemical products.....		
Spirits and liquors.....		
Paper, etc.....		
Machinery.....		
Vehicles.....		
Arms and explosives.....		
Miscellaneous.....		
Total.....	118,606,270	107,084,421

The most important increase in imports during the year was that of machinery and apparatus of all kinds, while the next in importance was of vehicles, due probably to the large orders for automobiles and heavy carts placed in foreign markets. The second secretary of the British legation in Mexico in reporting on the imports says: "The value of the goods purchased abroad must have exceeded the value of those imported in the previous year by at least \$15,000,000, a value which has influenced the present financial situation of the country and added to the general stringency of money."

There was an increase of 16 per cent in the number of passengers carried on the railways, and an increase of 30 per cent in the value of the passenger traffic; and an increase of 6 per cent in the number of tons of freight carried and of 9 per cent in the value of the freight.

There was a surplus of Government revenue over ordinary expenditure in the last fiscal year of \$14,210,000, which was the largest during the last ten years. There was a decrease of \$5,500,000 in nondutiable imports and an increase of \$11,679,000 in the dutiable imports as compared with the previous year. The decrease in nondutiable imports is explained by the British secretary of legation by the fact that although \$23,000,000 worth of gold and silver coin minted in the United States were imported into Mexico in the fiscal year 1907, yet this sum was far inferior to the amount minted and imported in the previous year.

EXPRESS SHIPMENTS FROM UNITED STATES.**CONSIGNEES ANNOYED BY ADDITIONAL CHARGES ON PREPAID GOODS.**

Consul-General A. L. M. Gottschalk, of Mexico City, invites attention to the fact that his office is frequently in receipt of complaints from persons in the United States who, having intrusted to some American express company goods for forwarding to Mexican points, discover that after many weeks the goods have not been received by the consignees. He therefore explains the difficulties involved and how they may be overcome:

Although the goods may have been sent "expressage prepaid" from the United States, the consignees in Mexico justly refuse to pay the local charges at the Mexican end of the line or to receive the goods.

In a country like the United States, where so many firms advertise that they will sell goods on monthly installments or subscription, delivering them to the purchaser, "all charges prepaid," it would be well that shippers, as well as the American living abroad, understood that trade between nations, "international" or "export" trade, can not be carried on in the same fashion as between towns in the States, and that they should not ignore such rudimentary requirements as those of the consular invoice, the payment of import duties in foreign lands, local municipal charges in foreign cities, etc.

Certain express companies in the United States would do well to inform themselves as to the local laws and customs of Mexico before allowing their customers to believe that they have "prepaid all charges" on express packages which are being sent to Mexico. The acceptance of such a commission on the part of an American express company amounts almost to a misrepresentation. The shipper, after such an assurance, writes in all good faith to his consignees that he has "prepaid all charges;" the consignee in this country on being confronted with the bills for freight from the American frontier to the point of delivery, duties, stamp charges, certificates of origin, internal revenue, or storage (through the American shipper's delay to send down original bills of lading), naturally refuses to accept the goods; and everybody concerned writes indignantly to the consulate-general.

The matter would seem to be a particularly important one, as a great number of firms in the United States who desire trade with Mexico make it a practice to ship samples by express to firms or persons in the country who naturally have no desire to pay charges for the privilege of examining American goods.

PORT OF TAMPICO.**ITS GROWING IMPORTANCE AS A SHIPPING AND RAILWAY CENTER.**

The following information concerning the effects on Tampico of the merging of the two great railway systems of Mexico, and on direct trade from the United States to the City of Mexico, is furnished by Consul P. Merrill Griffith:

The final arrangements for the merging of the Mexican Central and Mexican National railways was a most important transaction, the future beneficial effects of which on the port of Tampico will be vast. The natural maritime and inland advantages, together with

the expenditure of several millions of dollars in dredging, building jetties, and the construction of practical and convenient custom-houses and wharves, equipped with all the modern improved facilities for handling freight and cargoes, have already converted Tampico into one of the most important shipping and distributing ports of Latin-America. Nearly a million tons of freight were handled at this port during the year 1907, and the imports and exports are constantly increasing.

The immediate effect of the merging of these two systems will be the resumption of work on the Short Line, which, during the progress of these negotiations, has been temporarily suspended, and the subsequent opening of which to traffic will bring Tampico within ten hours of the City of Mexico, a fact significant in itself to all shippers and those interested in the commerce of this country.

Another result of the agreement referred to will be the enlargement of local terminal facilities and other improvements necessary to handle the increasing tonnage. Later on the extension of a branch road from Tampico, through the State of Tamaulipas, to Matamoros—now being discussed, and for which a concession is said to have already been granted—to connect with the St. Louis, Brownsville and Mexico Railroad, will make the shortest international route, via Houston, Matamoros, and Tampico, from all the central and eastern markets of the United States to the City of Mexico.

SADDLERY AND HARNESS.

ACTIVE DEMAND—CHARACTER OF GOODS MOSTLY USED.

In the following report from Tuxpam, Consul A. J. Lespinasse points out the opening in Mexico for the more extensive sale of American saddlery and harness:

If systematically and periodically canvassed by competent Spanish-speaking salesmen, Mexico undoubtedly offers an excellent field for the sale of saddles of all descriptions and their accessories such as stirrups, girths, saddlebags, saddletrees, saddlepads, halters, cart collars, saddle blankets, riding quirts, and a variety of other articles in this line.

As the duties on saddles are high and pay according to weight, they should be constructed as light as consistent with strength and durability. The style of saddle mostly in use here among the cheaper grades is the Texas type with hide-covered horn, wooden stirrups, leather fenders, and plain open saddletree hide covered; these saddles retail here from \$25 to \$35, Mexican. (Mexican dollar or peso = about 50 cents, American.)

Among the better class the Mosby and McClellan styles are in most demand and retail from \$50 to \$75 Mexican, according to workmanship and fancy trimmings. A finer grade with expensive trappings would meet with a limited sale in the larger and wealthier centers of Mexico.

Duties on saddles if not adorned with precious metals are \$2 Mexican the legal kilo (kilo = 2½ pounds); if adorned with gold, silver, or platinum, \$6 Mexican the legal kilo. Cart and truck harness would meet with a limited sale here. The articles most in demand would be cart saddles, collars, traces, bridles, breeching, hames, bits, etc. The duties on harness are \$2 Mexican the legal kilo.

TRADE IN FOOTWEAR.

AMERICAN SALES GROW WITHOUT CANVASSING OR SOLICITATION.

Consul Luther T. Ellsworth, of Ciudad Porfirio Diaz, calls attention in the following report to the excellent opening for the extension of the sale of American footwear in Mexico:

The sum of \$149,670 was invested in American shoes and boots in 1907 by the dealers in this part of the country. It was the merited reputation of these articles that delivered, almost free of expense, this trade to manufacturers and dealers of the United States. The representatives of American manufacturers and dealers in footwear rarely visit this district, but the quality and style of their product introduced here has given such excellent satisfaction that this trade has been secured almost without solicitation.

Mexicans dress their feet as well as their means will permit, some paying \$8 to \$16 (Mexican dollar or peso = 50 cents American) per pair for shoes or boots, and even the laboring people of this part of Mexico wear good qualities. American footwear has merited so much attention and so pleased the people here that they now demand it, regardless of price, which is necessarily high because of the Mexican duties of from 35 cents to \$1.50 American currency per pair, according to size. It is stated that the dealers now cross the Rio Grande and purchase their stock of the American dealers in Texas; therefore, it may be confidently stated that the present trade can be increased if given the proper attention.

WALL-PAPER MARKET.

GERMAN MANUFACTURERS ADVISED TO COMPETE FOR THE TRADE.

Consul William C. Teichmann, of Eibenstock, reports that a leading German export journal contains a strong recommendation to German wall-paper manufacturers to utilize the present unusual trade opportunities in this product in Mexico. A translation of part of this article is as follows:

If German manufacturers send the right kind of samples to Mexico, but only in original-size pieces, they may surely count on good orders. Particular attention should be paid to the Mexican climatic conditions with tropical heat and moisture, both existing there, and also that the temperature frequently falls nearly 50° F. Therefore colors which fade rapidly, or may be otherwise sensitive, must not be offered. Loud colors with soft shadings are popular in Mexico. A uniform taste does not prevail in that country, therefore as much variety as possible in style, color, and design is recommended. In this respect the capabilities of the European manufactories may be especially emphasized in comparison with the American competition.

A firm at Altona-Ottensen has already gained a foothold through Hamburg exporters. There are several Hamburg exporting houses thoroughly familiar with Mexican trade, having been engaged therein for many years.

We learn that quite acceptable prices are paid in Mexico for wall paper. Interest is also shown there for lincrusta, colored glass paper (buntglaspapier), linoleum, and paper stucco, particularly for lincrusta, which could become a great article there.

The American practice of designating not only every series, but also every design and each color by a single code word, should be imitated, so that even small orders, from which easily an active business may develop, can be sent by cable without material expense.

CANADA.**COMMERCIAL PROGRESS.****THE GROWTH IN IMPORTS—FOREIGN CAPITAL IS SOUGHT.**

Consul H. D. Van Sant, of Kingston, contributes the following information concerning Canadian foreign trade and development:

Canada imported from the United States in 1905 56,000,000 pounds of cotton of the value of \$5,500,000, and from other countries 500,000 pounds of the value of \$67,000. In 1907 the cotton imports from the United States reached 72,000,000 pounds of the value of \$8,000,000; from other countries 234,000 pounds, value \$29,620.

The following quantities of hard coal were imported in 1907: From the United States, 2,756,332 tons; from other countries, 28,539 tons.

Pulpwood exported from Canada to the United States in 1905 amounted to 593,624 cords, valued at \$2,600,814; in 1907, 628,744 cords, valued at \$2,748,901.

To secure British capital, not only for the large demands of the railway builders, but also for the smaller demands of the manufacturer and factory and house builder is a movement which the Canadian Manufacturers' Association has undertaken. For this purpose the association will seek to persuade British loan companies to establish branches here.

The winter has been an exceptionally long and dull one among tradesmen and retailers generally in Kingston. In some of the larger stores preparations are being made to replenish the depleted stock. American dealers in all staple goods used in the retail trade will find a market here for a limited amount of goods of various kinds, hardware, drugs, staple groceries, cotton goods and fabrics, millinery, plated ware, tailor-made clothing, windmills, wire fencing, fancy goods and toys, tinware, and household goods. Taken in connection with other cities and towns it would pay to send commercial men early.

HARBOR OF MONTREAL.**INCREASING TONNAGE AND COMMERCE THROUGH THE ST. LAWRENCE RIVER.**

The following information concerning the tonnage and commerce of Montreal, and the improvements in the harbor and approaches thereto, is supplied by Vice-Consul-General Patrick Gorman, of that city:

Montreal possesses a dock frontage of 10 miles, to which cars of all railways coming to the city—and all trunk railways in Canada connect directly with its harbor—have equal access, the rails being so laid that freight can be delivered from cars at ship's side and into sheds direct from the ship's hold, and vice versa. It is situated at the head of Canadian ocean and St. Lawrence navigation, 1,000 miles inland from the sea, and at the entrance of the Canadian system of canals, which connect with the Great Lakes by a 14 to 22 foot waterway that extends to the head of Lake Superior.

A 30-foot channel brings the ocean navigation to Montreal docks. There are no tidal fluctuations in the harbor, and in the central basin

is still water. Twenty-seven per cent of the total commerce of Canada comes and goes via the St. Lawrence and Montreal. The tonnage of the largest ocean vessels coming to Montreal has more than doubled in ten years.

The depth of the St. Lawrence between Montreal and Quebec—originally 10 feet—has been increased by dredging to 30 feet, at a cost of \$10,000,000. Nine powerful dredges were in operation last summer, and it is expected that the channel will be dredged by the Canadian government to a depth of 34 feet. The harbor of Montreal is closed during a winter season of five months, during which the business goes to other ports, a large share to Boston, some to Portland, Halifax, and St. John, New Brunswick.

ALASKA.

SLIGHT FALLING OFF IN TRADE LAST YEAR OWING TO LABOR TROUBLES.

Clarence L. Hobart, collector of customs for Alaska, in his report for the calendar year 1907 states that compared with 1906 the general business of Alaska shows a falling off. The total business for the past three years was as follows:

1905-----	\$39,159,772
1906-----	52,180,537
1907-----	48,425,330

The decrease for 1907 is accounted for mainly by reason of the merchants overstocking in 1906, and by decreased gold production in 1907. Compared with the Philippine Islands and Porto Rico the trade for the year was as follows:

Philippine Islands (December estimated)-----	\$67,821,684
Porto Rico (December estimated)-----	57,307,808
Alaska-----	48,425,330

Eliminating the foreign trade and taking only receipts and shipments to and from the United States, the comparison shows approximately as follows:

Philippine Islands-----	\$23,000,000
Porto Rico-----	49,500,000
Alaska-----	45,609,947

The gold production for 1907 is stated by the collector to be about \$2,000,000 short of 1906. This is mainly explained by labor troubles and miners' strikes. The total shipments of Alaskan products to the United States and foreign countries were as follows:

Articles.	1906.	1907.
Copper ore and matte-----	\$1,724,505	\$1,539,120
Fish:		
Fresh, other than salmon-----	236,065	172,364
Cured, other than salmon-----	199,157	208,464
Salmon, canned-----	8,449,860	7,721,749
All other salmon-----	273,756	352,957
Fish guano-----	32,615	21,196
Fish oil-----	32,408	45,500
Furs-----	644,936	501,255
Gypsum-----	17,400	72,965
Tin ore and concentrates-----	22,125	24,215
Whalebone-----	367,852	187,939
Other merchandise-----	547,245	730,856
Gold (manifested)-----	18,707,045	11,911,832
Gold shipped by mail (estimated)-----		5,000,000
Total-----	31,254,469	28,440,462

There were a number of new gold discoveries during the last year, which are said to be very promising.

SALVADOR.**FURNISHING GOODS AND NOVELTIES IN DEMAND IN CENTRAL AMERICA.**

Consul-General Samuel E. Magill advises that there are several stores in San Salvador carrying general lines of furnishing goods and novelties which do a good business, whose trade is desirable, and which can be reached by the usual efforts required to gain trade in the Salvadorean Republic. He therefore gives the following trade pointers:

An investigation of their several stocks and country of purchase develops that the following American goods are represented: Felt hats, suspenders, certain makes of perfumes and fancy soaps, phonographs and records, glassware, silver-plated ware, safety razors, fountain pens, children's bicycles, cameras and films, umbrellas, and buttons.

France is represented by perfumes, soaps, cravats, canes, men's hats, umbrellas, curtains, picture postals, silk ribbons, silk floss, partly made dresses, women's bonnets, parasols, towels, and toilet sets.

English goods found are cotton cloth, handkerchiefs, cutlery, lace curtains, and hats.

Germany sells porcelains, mirrors, dolls, cutlery, combs, umbrellas, picture postals, and buttons.

The stores referred to purchase in large quantities, are on the outlook for novelties, and buy in the cheapest market except that, being conducted by Frenchmen, they rather favor French goods.

American hats would be more largely purchased if American manufacturers would pack as many hats to the case as do French and Italian, for there is great saving on import duty through careful packing.

It is difficult to ascertain prices paid in Paris and London for articles which might be purchased in America, and when ascertained such information would be of no great value unless accompanied by accurate description of the article.

Manufacturers of novelties in furnishing goods, useful toys, rubber balls, games, especially ladies' specialties, etc., should send their illustrated catalogues to the list of firms sent herewith [obtainable from the Bureau of Manufactures] and keep them posted as to popular novelties introduced at home.

Traveling salesmen for staple lines might do well with a side line of some novelties, and would usually have abundant time to offer these, as steamers are from eight to twelve days apart in their calls at the principal port of Salvador.

SILVERWARE, WATCHES, CLOCKS, AND PLATED GOODS.

There are only three jewelry stores in San Salvador. The class of goods on sale and the countries from which imported are about as follows:

Solid silver articles consist chiefly of fruit spoons, cups, hand mirrors, napkin rings, toilet articles, etc., and are purchased principally from American manufacturers because of the fineness of design and workmanship. The only criticism made by the trade here is that they are too heavy; a lighter article of the same designs and finish

which would be cheaper would find a readier sale and be just as satisfactory to the purchaser, as such articles are bought chiefly for presents, and the question of durability is of less importance than that of appearance.

The United States and Germany furnish plated ware in about equal amounts, that from the former being preferred on account of quality. In the matter of cost there is little or no difference; therefore it is only to have variety of style for the retail trade that purchases are made in both countries.

PREFERENCE FOR AMERICAN TIMEPIECES.

American and Swiss watches are purchased in about equal numbers, as the retail trade seems equally divided between the two makes. The dealers state that they prefer to sell the American watch, for the reason that when repairs thereon are necessary the broken parts can be more easily replaced, for parts of American watches can be purchased in quantities, while those of Swiss watches can not.

Clocks come from the United States on account of the better quality of the works. This is true of both those with wooden and fancy metal and glass cases. A few German clocks are carried on account of novel designs in the cases, but in all other points American clocks appear to excel, and they seem also to be less affected by seismic disturbances, so common here.

Gold-plated buttons, cuff buttons, scarf pins, with and without stones, come from Austria, whose dealers offer a variety of style at prices less than those offered by American houses. Pens, plated pins, and patent buttons are purchased in the United States because they are regarded as better and cheaper. Plated watch chains are largely of German make because cheaper, and the trade here demands low-priced goods in that line.

OTHER ARTICLES—PACKING AND INSURANCE.

Solid gold rings, scarf pins, breastpins, and other solid settings come equally from the United States and Germany, each having certain advantages which make it advisable to keep both kinds in stock. Prices are about the same.

The finer grades of knives and forks are purchased in the United States because of their quality and finish, while in the ordinary and common grades the prices of German goods are lower than those offered by American houses.

Eyeglass crystals are entirely of American make, because of quality and price; eyeglass frames come in equal quantities from Germany and the United States. Although the German frames can be purchased at a lower price, orders placed in the United States are filled more promptly.

Precious stones are purchased in Europe. Fancy porcelain and religious figures and centerpieces for flowers, etc., are of German and Austrian make.

Goods for shipment to Salvador should be packed in cases as light in weight as possible consistent with the safety of their contents, as the import duties are collected on the gross weight of all packages. Orders should be filled exactly as sent and no substituting of articles "equally as good." Insurance should cover all losses, including even robbery.

BOLIVIA.**MARKET FOR AMERICAN GOODS—REMOVAL OF TARIFF DISCRIMINATION.**

Special Agent Charles M. Pepper writes from La Paz, February 12, concerning the Bolivian market for textiles and leather goods, and points out how goods from the United States of certain qualities are in demand; also lampware that will meet the peculiar conditions of an elevated climate. He says:

In treating of the Bolivian market for textiles a point upon which some misconception still exists needs to be cleared up. This relates to the discrimination formerly made in favor of Peruvian and Chilean products, under which they were admitted into Bolivia at lower tariff rates than articles from other countries. In consequence, Peruvian cotton goods had an advantage over similar goods from the United States, England, and Germany, while it was the common belief that other textiles which appeared as Chilean or Peruvian exports really had their origin abroad. Under the commercial conventions which Bolivia negotiated with Chile and Peru in 1904 and in 1905 these tariff concessions were abrogated, and since July 1, 1906, all foreign imports have been on the same basis. So in considering the market it is not necessary to analyze prices as affected by tariff discriminations.

Before the treaty placing Peruvian importations on the same footing as those from other countries went into effect the market was flooded with "tocuyos," the coarse, unbleached cottons which were manufactured by the Peruvian mills, some dealers laying in a two-year stock, and most of the stores in La Paz are still drawing on that supply, but this stock has been reduced to the point where replenishment is necessary, and purchases are now on a normal basis. The tariff on cotton goods nominally is 30 per cent ad valorem, but there are many classifications based on weight and fixed appraisal valuations, so that the duties are really specific.

The market has some geographical distinctions. Southern Bolivia and the larger section of the interior, including most of the towns and cities and the tropical regions, secure their importations through the port of Antofagasta. Northern Bolivia, of which La Paz may be said to be the distributing center, imports through Mollendo. The larger market is that supplied through Antofagasta, and it is controlled to some extent by Valparaiso.

DIFFERENT CLASSES OF GOODS NEEDED.

There is also a difference in the quality and classes of goods distributed to the different districts. The Antofagasta importations, reaching as they do the tropical regions of the country, cover the bulk of the lighter fabrics and the prints. The central plateau with its colder climate calls for heavier goods, which are imported through Mollendo. The output of the Peruvian mills that is imported is marketed almost entirely in northern Bolivia, geographical proximity affording some compensation for the loss of tariff advantages. The mills at Arequipa have only to pay the freight 200 miles to Lake

Titicaca and then across the lake, so that naturally they are the chief Peruvian source of supply.

The classes of goods imported from the different countries are so well defined that the competition at present is not very marked except between English and German prints. The "tocuyo" or coarse cloths of the Peruvian mills have now come to have a general trade significance, and, as applied to foreign importations, mean all kinds of unbleached cottons. I am assured by large importers that American "tocuyos," after a hard fight lasting several years, now have a permanent position in the Bolivian market. It is one of the rare instances in which they have secured an advantage over Manchester. The Indians of the plateau want a very coarse article, heavy to the touch, and this is supplied by the Peruvian tocuyo. The medium finish of the Manchester mills is not liked. The larger call is for tocuyos with a good finish, and the American mills furnish a better finish than the English mills. It is this finish which has established the demand for them.

THE MARKET FOR AMERICAN COTTON GOODS.

An estimate given me of the importations of tocuyos during the present year, assuming fairly favorable trade conditions, is as follows: From the United States, 8,500 bales; Great Britain, 4,000 bales; Peru, 2,500 bales. This should dissipate the notion that there is no market in Bolivia for American cotton goods. Gray domestics find special favor in the northern section, and drills and flannels from the New England mills are well displayed.

Some of the mills of the southern part of the United States have tried to introduce their prints, but it has to be stated that their efforts have not met with encouragement. Importers say that in price, pattern, style, and design, but especially in price the southern mills have not been able to meet the Europeans. The line of future growth therefore seems to be chiefly in supplying the unbleached goods which are satisfactory both as to cheapness and quality. Some of the importing firms which handle American goods are interested in the Peruvian cotton mills, so that their judgment on this point may be taken as conclusive. The bleached goods which some of the Peruvian mills are now turning out are so far from supplying the home demand that no attempt has been made to put them on the Bolivian market.

ENGLISH AND GERMAN COMPETITION.

The trade in prints continues largely in the hands of Manchester, though German competition in supplying inferior and more gaudy goods is making itself felt, and prints make up a profitable share of the importations of cottons from Germany. Notwithstanding that the German goods wear out so much sooner, the Indians seem satisfied with their attractiveness and cheapness when purchased. Importations from Germany also include many cotton mixtures sold as woollens. The fine native wool is spun and woven by the Indian women on primitive looms into shawls for themselves and ponchos for the men, and these articles of native product heretofore have had a valuable domestic market. But Germany is now supplying shawls and ponchos of cotton and wool, dyed more brilliantly than the native article and very hard to distinguish from it

in texture. One dealer who had been supplying interior points with native shawls and ponchos discovered that three-fourths of his stock was of German make.

Colored shirtings from Germany of a fair quality are sold at a price which insures an active demand. In hosiery, both the cheap and brilliantly dyed and the better grade, Germany has the lead, competing in the former with the bright yarns of the fine native wools. Cheap colored German handkerchiefs also lead. In a cheap grade of cloths for men's wear used by the Indians Manchester is now beginning to compete with Germany. Felt hats, which are worn almost universally by both the men and the women of the Indian class, are imported from the district in Austria that is noted for this class of manufactures. Finer hats are supplied from England and Germany, but their sale is not large.

In carpets, for which there is a fair demand, England has the advantage. The market for fine dry goods is limited to the wealthier classes of La Paz, Sucre, Cochabamba, and the other cities, yet the aggregate is not inconsiderable. This trade is supplied by France, Germany, and England, the United States not being a factor in it.

LEATHER GOODS—FRENCH HIGH-HEELED SHOES.

The market for leather goods, including boots and shoes, admits of slow growth. The large number of people engaged in pack animal transportation calls for various forms of saddlery and crude harness, much of which is of local manufacture from imported tanned leather. A popular and largely used article of home make is the petaca, or rawhide trunk, which is so essential in mule-back travel throughout the country, two petacas usually being so arranged as to provide one pack animal's cargo. But this industry is small compared with the making of footgear.

The bulk of the native Indian population contents itself with a rude sandal consisting of little more than a sole of untanned leather, which has to be very durable to resist hard tramping, particularly in the season of the snows and rains. In the towns and cities a larger proportion, when not going barefoot, manages to buy the primitive handmade shoes. The women of the Chola or Indian class have created a demand for an article of much better quality. French high-heeled shoes, laced above the ankles, are worn by even the poorest, though this class may reserve them for festival occasions. Whether imported or of home manufacture, in which much skill has been developed, the price ranges from \$10 to \$12 gold, so that for very many of the Chola women a pair of shoes is a luxury. But being a luxury does not prevent these women from possessing them. The prevalence of this custom explains why the domestic market is better for ladies' than for men's footwear.

AMERICAN BOOTS AND SHOES IN DEMAND.

The sales of imported boots and shoes are chiefly for men. The buyers are Americans and Europeans and well-to-do Bolivians. Since the presence of so many Americans engaged in railway construction the demand has increased, and this will be one of the means of insuring permanent sales, but for a marked growth of this trade the main reliance, of course, must be on the Bolivian population.

Many of the retail stores in La Paz display signs announcing that American shoes are for sale, the St. Louis make being the most common, though New York factories are also represented.

Prices are high. They run from \$8 to \$11 for shoes of the quality and style that sell in the United States at from \$3 to \$4.50 per pair. The valuations in the tariff schedules are on a somewhat arbitrary basis of classification per dozen pairs, but the rate of duty is 45 per cent ad valorem, with a few unimportant exceptions. Dealers also have to take into consideration the frequency with which in the transit along the west coast and in the transshipments cases are broken into and pairs stolen without their being able to recover from either the exporters or the steamship companies.

HIGH PRICES DUE TO EXCESSIVE PROFITS OF DEALERS.

Notwithstanding the high price at which they are sold, the durability of the American shoe is so much greater than that of the native article, and the fit is so much better, that it finds favor, and a purchaser once secured is pretty certain to continue a buyer. The effort the manufacturer should be directed to persuading the middleman to forego a portion of their usual 100 per cent profit, and to sell American shoe at a price which would bring it within the reach of a larger number of consumers. A shoe of fine quality which could be retailed in La Paz and other cities for \$7.50 (the \$5 shoe of the United States) would have a good sale; a shoe of good quality which could be sold at \$5 (the \$3.50 shoe of the United States) would have a larger sale. Some of the local dealers display outside their stores the signs sent them from the American factories as advertisements of the \$3.50 and \$4 shoes, while within they sell them for \$8 and \$9. The sales, of course, are in the money of the country, and the fact that the boliviano, which is the monetary unit, is worth about 40 cents American gold, distracts attention from the disparity. Some of the importers of textiles also handle boots and shoes, but to secure increased sales it would be desirable for the manufacturers to induce them to place advertising literature in the hands of such of their customers as are retailers.

Many of the Bolivian importing houses are branches or agents of the firms whose headquarters are at Arequipa, and whose addresses were given in the report on the markets of southern Peru. The majority of them also have branches in other cities than La Paz, and some are engaged in both wholesale and retail business. General merchandise is covered by most of them, but those whose names are forwarded are engaged especially in handling textiles.

GLASS AND GLASSWARE.

The market for glass and glassware in Bolivia does not offer encouragement to manufacturers in the United States. Plate and window glass and mirrors are imported in small quantities from Belgium, Germany, and Austria. In proportion to their size, La Paz and the other cities import liberally enough, because fine show cases and windows are a feature of most of the large stores, as are also looking-glasses. Owners of private residences also manifest a fondness for showy mirrors. But while this tendency is marked, the expense of gratifying it limits the aggregate of the purchases. For example, an ordinary store mirror which in the United States might retail for \$60, in La Paz fetches \$240. Plate glass is proportionately high, as

are ordinary small windowpanes, though the latter have to be used in the majority of the dwellings, since the climate is not tropical enough to dispense with them. In addition to freight charges the breakage due to the numerous transshipments and the crude methods of handling forms a heavy cost item. The notoriously bad packing of American manufacturers would give them little chance of a market under such conditions, but there are other considerations which make them indifferent to it. Almost without exception glass is imported on consignment, and with nine to twelve months credit for sales made. There are three dealers in Lima who secure these terms from European exporters. No American exporter will give them.

AMERICAN LAMPS AND LAMP WARE—RAILWAY CONSTRUCTION.

In lamps and lamp ware manufacturers in the United States are able to make sales in competition with Austrian lamps. One well-known American lamp with nickel finish is in fair demand. Hanging lamps are quite popular and are found in many residences. Bolivia depends almost entirely on kerosene for illuminating purposes, so that the demand for chimneys is a constant one. It is enhanced by the atmospheric conditions at altitudes ranging from 10,000 feet upward, which cause breakage by very slight expansion and contraction. Pittsburg manufacturers appear to meet the requirements by providing a chimney that shows a maximum of durability and a minimum of loss under these atmospheric conditions, and their wares have an established demand. The Bolivian tariff on window glass, plate glass, mirrors, etc., is 30 per cent ad valorem.

The failure of the Argentine Congress to provide funds for extending the Argentine lines from the boundary at Quiaca, the 55 miles to Tupiza, as provided in the treaty between the two countries, will not stop the work. After the Congress was dissolved by the Argentine executive, the same authority set aside the necessary funds for continuing the preliminary works to Tupiza, and directed that they should proceed. The prolongation of the Argentine lines to the Bolivian border, which was completed in December, will be opened for freight and passenger traffic in April.

[Mr. Pepper sent the names of importers of textile and leather goods at La Paz, which names are on file at the Bureau of Manufactures.]

CHILE.

AMERICAN TRADE OPPORTUNITY.

A GOOD MARKET COULD BE DEVELOPED BY THE PROPER EFFORT.

The following information relative to conditions now prevailing in Chile favorable to increased American trade in that Republic, and the means by which that increase can be secured, is furnished by Consul Alfred Winslow, of Valparaiso:

Newspapers of the United States are making reference to proposed expositions for American goods to be held in some of the more important South American cities. There is no question that this would be a great move toward getting our portion of the trade from this part of the world, which has been so much neglected. This, followed up with personal work and better mail and freight facilities, will

accomplish wonders and pay well for the effort. The producer must get in closer touch with the consumer, and show what is best. As a general thing, the importer is well posted, but he buys what the consumer asks for, rather than go to the trouble of introducing a new article. This is especially true where it is to replace goods of his own country's production, as is generally the case in Chile, where there are but few American merchants.

Now is a particularly favorable time to make such a move for the business of Chile, since there is a business depression at present and all merchants are allowing their stocks to become greatly reduced. It will be necessary to restock within six or eight months, when American interests should be in the field. If it is not practicable to get the proposed American commercial exposition here in working order within that time, it will pay well to cover this field personally, for when business revives it will be easier to introduce new wares than when business is at high pressure.

These expositions and the personal work must be followed by quicker mail and better freight facilities, if the trade is to be held. This is important and should have the prompt attention of exporters. Valparaiso is only about 5,000 miles from New York, but it requires from seventy to eighty days to get a reply to a business letter, and to get an order filled and delivered generally takes from five to six months, when it should be accomplished in one-half the time, as is the case from Europe.

All of this work will be of little avail unless great care is taken in supplying just what is ordered and in seeing that it is well packed. The cases should not be very large, and should be made of tough boards, well bound with strap iron. Everything should be so packed that nothing can shake about in the case or rub together. Plenty of hay, straw, or excelsior should be used. It will add but little to the freight bills and will do much to protect the most breakable wares.

Another important agency in holding the trade in South America would be several well-connected branches of a strong American bank, with headquarters at New York, through which the financial transactions could be made instead of through foreign houses. This is important and it seems might be developed by the same interests that have the exposition matter in hand.

PRESENT TRADE CONDITIONS.

EFFECTS THEREON OF UNFAVORABLE INTERNATIONAL EXCHANGE.

The following information concerning the imports, exports, and customs receipts of Chile is furnished by American Minister John Hicks, of Santiago, from a report issued by the Chilean treasury department:

The imports and exports of Chile in 1907 show an increase of 6,989,109 gold pesos (\$2,516,079) as compared with those of 1906. The increase would undoubtedly have been much greater had it not been for the crisis which came upon the country during the month of October, the paralyzing effects of which are still being felt.

Because of the extremely unfavorable character of the international exchange (the value of the paper peso dropping from about 13 pence to 8 pence, or 26 to 16 cents, in a short period), many importing

houses countermanded all their orders for foreign goods, and are only just beginning with the new year to think of starting goods for Chile again. This situation is reflected in the custom-house figures for the month of December. There is a decrease in the receipts for imports of 1,880,908 gold pesos (\$677,127) as compared with the month of December, 1906, and in the receipts of export duties of 1,419,354 gold pesos (\$510,967), a total decrease of 3,300,262 gold pesos (\$1,188,094) as compared with December, 1906.

The total customs revenue for 1907 reached the sum of 120,305,348 gold pesos (\$43,309,925, against 113,316,239 gold pesos (\$40,793,846) in 1906, an increase of 6,989,109 gold pesos (\$2,516,079).

All the duties in the Chilean tariff are fixed in pesos of 18 pence (36 cents American), but, according to the financial law passed in August, 1907, the importer or exporter may pay the customs duties in paper money valued according to the international rate of exchange. It was hoped that this might very materially reduce the demand for drafts on Europe, and had it not been for certain disturbing factors in the trade situation which caused the present crisis, the considerably increased demand thus created for the paper money might have worked favorably upon the international value of the paper peso. As it was, the business stagnation of the past three months disturbed all the calculations of the legislators.

BRAZIL.

MARKET FOR CONFECTIONERY.

AMERICAN GOODS SHOULD HAVE A SHARE OF THE TRADE.

Consul-General George E. Anderson, of Rio de Janeiro, advises that apparently there is an opportunity for the sale of American confectionery goods in Brazilian cities, which leads him to give the following particulars:

At present there is considerable trade in European confectionery in the larger Brazilian ports, and the imports consist almost altogether of French goods, though the lines of English candies in tin and glass sold over the world generally have considerable vogue among foreign residents. Brazilian consumers seem to prefer French goods, and Brazilian manufacturers follow the French styles in such goods. The amount of candy consumed in Brazil is very high, considering its price and the large proportion of it which is of high grade. The imported stock comes in highly decorated packages, carefully wrapped piece by piece, and with the larger packages in tin. Candied fruits, creams, and hard candies and various forms of chocolate make up the bulk of the goods. The best grade of Brazilian-made chocolates can be had by the kilo (2.2 pounds) or half kilo at retail at 8 milreis per kilo, about \$1.09 per pound. Hard candy of fair grade sells at retail for 2.4 milreis per kilo, or about 33½ cents per pound. The tariff on such goods is 3 milreis a kilo, or about 53 cents per pound, gross. Imported goods sell higher than Brazilian made.

American candies, where they are known, are popular and would find ready sale with proper pushing. It will pay American confectioners now in the foreign field to cultivate the markets here by

trying to get local representation, probably best through agents representing other lines at the same time. In the way of correspondence it may be profitable to write a number of firms in Rio de Janeiro. [A selected list forwarded by the consul may be secured from the Bureau of Manufactures.]

There ought to be an opportunity to cater to the foreign element in Brazil and secure a foothold for American goods in this manner. Some study of special needs of the market should be made, goods should be well packed, generally in tins, and careful attention to steamship services will be necessary.

TAX ON TRAVELING SALESMEN.

COMMERCIAL TRAVELERS TO BE CHARGED LESS IN BRAZILIAN CITY.

Consul George H. Pickerell reports that the municipal chamber of the Brazilian city of Para has recently authorized a reduction in the tax levied upon traveling salesmen (Caixeiros Viagantes), concerning which he says:

The reduction is to be effective up to and including December 31, 1908. The new tax amounts to about \$100, which with the percentage charged for hospitals, stamps, and other fees, brings the total charge to \$118. I would especially warn traveling men not to try to do business until after they have secured their license, as the penalty for evasion is confiscation of samples, together with a heavy fine, accomplished through the court. I would also advise travelers contemplating a visit to this region, that business is rather dull and purchases are only for immediate account. However, this should not deter anyone from making the trip; now is a good time as merchants are able to look at samples, and the new prices afford a better opportunity to compete.

COLOMBIA.

AMERICAN TRADE LOST THROUGH INATTENTION TO ORDERS.

Consul Isaac A. Manning, of Cartagena, presents another complaint against the unwise methods of some manufacturers and exporters in the United States in their dealings with Colombian merchants. He says:

That the complaint is a just one I am satisfied, and that it is based on methods which undo in one shipment the results of work of months by members of the consular service, and others working abroad in the interest of American foreign trade. A merchant here had been buying his felt hats in England, but decided to try a shipment from the United States. He placed his order through a commission house in New York, directing that he be sent hats of certain colors, and that they be packed in a light crate, after being compactly nested.

When the shipment, amounting to six dozen hats, reached the merchant here, they were found to be in colors which seemed to meet the ideas of the manufacturer, but not the colors ordered by the merchant here, nor in colors satisfactory to his trade, and instead of being packed in a light crate were packed in a heavy box. The hats were also loosely nested, and the result was they cost the importer

here \$20.70 more in freight and duty than they should have cost. This was on a shipment of hats valued at \$79.80.

SUPERIOR BRITISH METHOD—POINTS TO OBSERVE.

To show the comparison between the English and American packing, the same importer recently bought 15 dozen hats from England. The weights and measurements are given as follows:

From England, 15 dozen felt hats crated in an open crate measuring 28 cubic feet, weighing 112 pounds.

From United States, 6 dozen felt hats packed in a case measuring 25½ cubic feet, weight 95 pounds.

On making reclamation, the importer called attention to his instruction as to packing, and the house manufacturing the hats wrote back that they could not pack in a crate because the steamship companies would not accept goods packed thus. This I am informed is not true, for goods of this character come constantly from Europe packed in this manner by a line belonging to the same company as the line which operates between here and New York.

The importers of goods believe that they have a reasonable right to know what they want, and a right to instruct exporters as to how goods should be packed and shipped. When manufacturers in the United States begin to study the demands of these countries and to attend to shipping instructions, as well as to give what is ordered and not try to send something else "just as good," they will do more to get the Spanish-American trade and to hold it than has yet been accomplished. This matter of packing is as important as is the supplying of the goods ordered. When American manufacturers take time to consider the difference between *ad valorem* and specific duties they will realize this. In most Spanish-American countries the principal duties are assessed on the weight of the goods, including all packing.

This is why the English, German, and French manufacturers pack all piece dry goods in bales instead of boxes. The bale packing can readily be made waterproof and a saving is made on freight, in weight and measurement, and on duties.

ITALY.

REVIEW OF TRADE CONDITIONS.

LARGE MARKET FOR AMERICAN PRODUCTS IF PROPERLY EXPLOITED.

The following report concerning the commercial outlook in the Milan district, and relatively in all Italy, for 1908, and what American manufacturers and exporters should do to fully exploit the opportunities which the market offers is furnished by Consul James E. Dunning, of Milan:

A quieter year is in prospect, in contrast to the intense activity of the two previous seasons, during which the industrial movement in the northern provinces took on an aspect of decidedly American cast. While the American exporter may still look to Milan as an unusually profitable field for his efforts, the abatement in those large orders for machinery and machine tools which characterized both 1906 and 1907 must affect the totals when the end of 1908 is reached. The year,

apparently, will be one of very conservative progress. This condition should be kept in mind by the American manufacturer who intends entering the territory or broadening his hold upon it. It is an exceptional time, not for relinquishing or suspending effort, but for organizing it and giving it direction.

There is a general feeling that production has been overdone here in the last two years. The sudden financial shrinkage in the autumn of 1907, coincident with that in the United States and elsewhere, found not only considerable overstocks of goods in many lines, but stopped production and delivery at a time when practically all manufacturers of importance were producing as heavily as possible in order to cover themselves on their large expenditures of capital for increased plant. The expansion of manufacturing interests was being paid for in increased production when interrupted at the very height of the compensating process. As a result there has been a rapid reduction of construction plans and exploiting campaigns throughout the district.

OPPORTUNITIES FOR AMERICAN EXPORTERS.

This temporary halt in the tremendous advance of Italian industries, however, does not greatly affect the Milan district as a buyer of small articles. Probably the present caution which pervades the market is more than offset by the increased activity of small agents handling one or several articles on commission bases. At a time when trade, as a whole, is rather slow in movement there appears to be an unusual opportunity to draw attention to a vigorous campaign of introduction on the part of American exporters seeking an outlet in the foreign field.

While the change of trade conditions, just referred to, have affected all large enterprises, the sense of this report is intended to be, as a whole, that American exporters may, with an unusual degree of profit, enter the Milan district in a vigorous campaign of introduction, even on the generally lower basis on which business will most likely be done during 1908. Taking the district as a whole, and considering its tremendous resources and the remarkable advances of its people, the volume of trade within its borders at the disposal of American exporters is much greater than can be realized in the United States. Large as the trade is (about \$22,000,000 in 1907, including raw cotton), there is a vast amount still untouched which Americans can have if they will make the effort to get it.

Among the lines which can be increased in volume by proper treatment are: Lead pencils, typewriter ribbons, blotting paper, agricultural machinery, concrete mixers, boots and shoes, leather, envelopes and paper, ink, low-priced typewriters, barber chairs, store furnishings, kerosene stoves, sofa beds, canned goods, pens, linen collars and cuffs, boats and engines, electrical supplies, and particularly copper wire, firearms, bottle-labeling machines, low-priced guaranteed clocks, mechanical floor scrapers, steel ceilings, pumps, farm lanterns, and electrical flatirons and curlers.

MILANESE THE BEST TRADE AGENTS.

It should be understood by the American exporter that the Milan field is already well occupied. It is an interesting example of a ter-

ritory in which nearly every line of American goods has been introduced to a greater or less extent. This condition does not close the way to development, but it heightens the difficulties and renders necessary a highly organized effort, if one is to be made at all.

Not only American goods, but products of England, France, Germany, Austria, and Switzerland are sold in Milan and its dependencies in great numbers. The French, Germans, and Austrians are specially active, and their numerical strength in the population gives them positions of unusual advantage in banking and other arrangements needed by the successful merchant. To offset superiority of natural position, American exporters will find that, almost without exception, the best results are obtained by employing native Milanese agents. Scores of these are uncommonly clever salesmen, are in touch with every sort of trade in the whole of southern Europe, have good bank and other connections, and are specially useful in those personal relationships which are made so much of in the business of this country. Equipped with a good article or group of articles in which they have confidence, and for the sale of which they have been carefully prepared through preliminary correspondence with the American exporter, they are able to canvass the field as Italians to Italians, with all the implied advantage.

Such personal representation will be needed in territory so warmly contested by European competitors. In view of the general failure of catalogue campaigns the consulate at Milan has gone into this matter with care and studied it for several months.

THE CONSULATE FOR PRELIMINARY TRADE CONNECTIONS.

While it is not entirely true that advertising in the English language is worthless in this territory, after studying this part of the case with care, I believe that the ordinary inquiry letter, sent to the consulate with the request that its terms be referred to a list of trustworthy individual agents, is the best form of preliminary connection to be had. This brings the firm's wants directly to the knowledge of this consulate, which has organized a simple system for communicating with representatives desirous of attaching themselves to American houses. With the assistance of the Chamber of Commerce and the Milan Commercial Museum, and by individual effort on the part of members of the consular staff, persons known to be seeking agencies for American or other foreign goods have been listed in the office, and their respective special lines indexed. They have been encouraged to visit the consulate, at more or less regular intervals, and are there supplied with bulletins of American addresses which have reached the consulate in inquiry letters from home. Special inquiries, dealing with explicit demands regarding a single article by a house, whose intention is evident from the tone of its letter, are referred directly to such representatives as are listed for that line. They are invited to come to the consulate for a conference, one at a time and generally after business hours, and are placed in possession of such information as has been sent to this office by the exporter. In this way the consulate learns whether or not the prospective agent can speak and write the English language, and receives from him such suggestions as can best be communicated to the house by the consulate itself. The rest of the matter is left

to the agent, on his agreement to take it up by correspondence without delay.

So far this plan has worked well. The number of Italian agents taking advantage of it is increasing at a good rate.

Houses seeking information from the consulate as to the financial responsibility of agents applying for territory and terms are referred to the commercial agencies in the United States, all of which have branches in Milan equipped to give the most detailed information of this character.

SWINDLERS AT WORK.

As an illustration of a class of agents against which American exporters should be on their guard, one case has been reported of an agent, of no commercial standing, who made a business of borrowing a copy of an American trade journal and sending letters to as many as a hundred advertisers a month, with the aid of an English-speaking clerk whom he employed in the latter's leisure time to make translations. It has been stated that this industrious man received large numbers of samples from the United States from his canvass of the market, and that he derived from their sale an income of from \$60 to \$100 monthly.

The consulate has found that catalogues, even in English, are of some value in such a system as that outlined above. If the prospective agent is reasonably interested in the inquiry-letter of the American house, his interest is heightened by a well-illustrated catalogue, and his correspondence with the house in initiating relations is bound to be much more intelligent. The consulate has generally found it well to be somewhat reserved in the distribution of catalogues. The Continental houses with representatives in Milan are extremely careful about giving out their detailed catalogues with price lists. Very much better results have been obtained in this office by giving out the catalogue only to persons of sufficient importance to have proved their title to it. The catalogue is of use after the agent has been called on and presented with the inquiry of the home house; but it is of little use to send it unaccompanied by an inquiry-letter, or by something which will explain clearly the firm's intention and need for an intelligent conference with agents interested in a particular line of merchandise.

CATALOGUES SHOULD BE TRANSLATED.

To such firms as are in the habit of sending price lists and discount sheets to the consulate for communication to possible inquirers, and for the use of persons to whom their catalogues may be turned over, it might be said that the value of these lists would be very much increased if they were translated into Italian or French terms. The translation is so simple that the consulate sees no reason why it should not be done; and the measurements, excepting of course in the case of complicated machinery not introduced in this way ought to be in terms of the metric system. Not long ago the consulate was handed a long statement of prices and measurements sent to an Italian firm which was exceedingly anxious to make a large and immediate purchase of the article in question. Both the prices and the measurements were in American terms, and the measurements were so abbreviated that they were unintelligible to the would-be importer.

The service which the consulate performed for the buyer in translating the American terms from cents per foot-pound into francs per kilogram and per meter, required not more than two hours and was not a difficult matter, but this should have been done by the home house. Every Continental exporter to Italy, according to good report, supplies his customers with estimates and statements in Italian terms. The English do not send their terms in shillings, nor the Germans theirs in marks. In a close year attention to this small detail might produce disproportionately good results. It is one of the things which tends to remove the impression, rather potent in Italy, that the local buyer is dealing with a distant foreigner.

AMERICAN VERSUS EUROPEAN CREDITS.

The consulate is familiar with the usual demand for practically cash terms made by American exporters and will not enter into an argument upon the point. It is the fact that Continental exporters to Italy do not exact such terms, while, on the other hand, it is the truth that such exporters are in a situation very different from that of the American, both as to distance and as to the time required in the transmission of documents. There seems to be no way at present for the American exporter to come into the field without taking this stand, which to many Italian agents seems unreasonable; but the consulate believes first, that very much can be done to offset this disadvantage by careful construction and scrutiny of the correspondence sent to Italy on the subject; and second, by using sufficient pains in the choice of agents to secure men who can afford to pay for their orders. Most of the good agents can and will do this if the exporter will give them every opportunity to know exactly what they are buying. In some cases this can be done by correspondence, but the consulate is aware of the difficulty of this method, and realizes that the one right way is to bring the goods directly before the agent at Milan. That can not be done until some effort, not yet organized, has been put into practice to bring American goods here under some system by which the appointment of agents can be initiated by a personal representative of the home house. Under such conditions (and it must be remembered that these are the conditions surrounding the introduction of Continental manufactures) the Italian agent would pay as he went, and the difficulty of terms would be removed.

MISUNDERSTANDINGS BETWEEN EXPORTER AND AGENT.

An illustration of the imperfect understandings which are often allowed to go as the basis for trade between the American exporter and his Italian agent has been afforded in Milan within a year, when an apparently trustworthy and important representative, wishing to take up a group of noncompeting American goods, undertook to correspond with their manufacturers in the English language. He took their addresses from a trade journal, without knowing our language well enough to understand its import in a business letter or in print, and wrote for samples and terms. The goods were sent to him by several houses, with the understanding on his part that they were to be treated as samples and distributed to the trade, he to pay the house, less his commission, such sums as he collected for their sale, if sales resulted. This is a common German method of introducing certain classes of goods. The American houses did not understand

the case that way, and, the goods having passed out of the agent's hands, they began action against him to secure payment which he had not yet received from his own customers.

Another case was that of an energetic young agent with an unusual influence who was asked by the personal traveling representative of an American house to undertake the introduction of its goods. Investigation showed that the opportunity was exceptional. The traveling representative agreed with the newly appointed agent that a certain quantity of goods were to be sent to Milan for free distribution in the trade, which has up to now been possessed entirely by the Germans, who are very liberal with their samples and their collections. On arrival the goods were distributed by the agent and a remarkably favorable impression was created in the trade. Soon after the American house sent the agent a bill for the goods, with the statement that they were charged to his account, subject to credit for such of them as he might sell.

These misunderstandings arise from lack of care in making the preliminary arrangements, and in the difficulty of correspondence in a foreign language. The advice of the consulate is that Italian be used when it is possible, and that the greatest care be taken to scrutinize the translations of so-called expert foreign correspondents in the United States, offering their services at a price per letter. If English is used it should be as clear as possible, and all doubt and question removed before coming to an agreement with the agent. If there is no other way of making an explanation, this consulate is always at the disposal of American houses who desire to have their terms elucidated to the prospective buyer.

IMITATION AND SUBSTITUTION—TRADE DIRECTORIES.

One result of a more active canvass of the Milan district by American exporters will be the more extensive imitation of American goods. This is done in a large way in American shoes, sample orders being given by the local manufacturers who have retail stores in Milan, and who copy the original with a certain amount of external success. There is, however, no relation whatever between the two shoes in quality. The genuine shoe sells in Milan for from \$4 to \$5.25, and the imitation for about \$3. Up to now these goods have kept the local territory almost entirely closed to American footwear.

Manufacturers of patented articles might, with valuable results, have their agents in Milan as elsewhere maintain a watch for the appearance of substitutes. Many of the latter are not made in Italy, but are sent in from adjoining countries to compete with the genuine American stock. There are numbers of small goods in this market which are apparently not American at all, though they bear American labels, and might pass for the originals but for inferiority of finish. This last is particularly true of padlocks, which are carded and displayed here by Continental exporters in competition with the higher priced and better made American locks that are making headway but slowly.

No dependence can be placed in trade directories of Italy when unassisted by some other medium of information and preferably some person familiar with the country. The numerous trade directories in the Milan district have the usual fault found in books of the kind, elsewhere, namely, repetition of firm names which have long

been out of existence. If trade directories are to be used they should be selected with exceptional care by some one accustomed to the trade of the field, and should be renewed annually. The best information is that sent out by the consulate in response to direct inquiry-letters.

An example of the uses to which trade directories are sometimes put was given by a foreign export agency which recently wrote to Milan and asked that it be supplied with a second-hand copy of such a volume, from which to compile lists for its American inquirers. A special directory of firms equipped to handle American goods is in preparation at the consulate, and will be transmitted as soon as possible. [When received it will be available for consultation at the Bureau of Manufactures.]

ADVERTISING—SAMPLES AND DEMONSTRATIONS.

Newspaper advertising in the district is costly, but the circulation is very wide. Well-written American matter, translated by a high class expert, could be placed to advantage in Milan by any firm with a volume of business or prospect sufficient to warrant the expense. There is one excellent advertisement writer in Milan available for American firms. The placing of the space should be left to the local agent after a full review of the territory and of the proposed mediums by the house. Newspaper advertising is not yet fully developed in Italy, and the opportunity is thus enhanced in value for live American houses needing that sort of publicity.

Billboard space is offered in large quantities and at reasonable rates. For both this and booklet publicity there are high-grade local supplies of cuts, inserts, and halftones. Programme advertising is less developed than in the United States and for that reason offers a good opening for special effects. Street-car space is another vehicle for advertising at a fair price.

For such articles as can reasonably be given that sort of treatment the Milan district offers an unusual opportunity for the free distribution of samples. Even for articles not usually so treated in the United States this territory is specially responsive to free distribution on account of the easy-going attitude of Continental merchants who want their goods introduced here and who follow this method as a form of advertising. The system is highly recommended when given a strict and rapid follow-up campaign with which to sustain it.

Not only in Milan, but in the dozen other cities of the consular district there is an almost untouched opportunity for demonstration, and particularly for window demonstration, of food products and articles for women's wear. Such a campaign would cost less than in the United States with certainly equal profits.

FINANCES AND GENERAL CONDITIONS.

The financial condition of the district is good, because, though it is one of the most intensely active industrial communities in Europe, its commercial operations are founded on an underpinning of agricultural interests, which are the true source of its wealth and prosperity. The crops of 1907 were very good, and the outlook in that direction for 1908 is equally good, excepting in the wine crop, which can not, in the nature of the case, be so abundant as that of 1907. The 4,000,000 people making up the population of the Milan district live largely off the soil products of their own provinces. The feeding of Milan city

alone—the communal territory contains a population of more than 900,000—affords a steady income to the surrounding agricultural population.

Silk and cotton textile manufacturers in the district in 1908 will do little buying until the latter part of the year, so far as new machinery is concerned. The reequipping of these mills, which has been quite general in Italy of late, will probably show a general halt, or at all events a strong slowing-down. If surplus stocks, choked up by the sudden reduction of outlet in the last few months, can be given delivery under anything like favorable circumstances, the situation will improve greatly before the opening of 1909. But even in that event, it is hardly likely that Italian industries will regain for several years the pace they had taken at the beginning of 1908. That pace was perhaps too rapid, and the reduction necessary. If so, the reaction is by no means an unhealthy sign, but quite the contrary.

In the silk trade there is a general depression and a run of low prices, which are believed to be still on the move toward lower levels. But the decrease is with relation to the scale prevailing in 1907, which was abnormally high. Even at the present reduced prices, which are in general 30 per cent less than those of 1907 at this season, the scale as a whole is higher than it was five years ago, and compared with that of the last twenty years it can not be regarded as indicative of great depression. In short, in the silk trade, though the unexpected drop worked loss to a great many individuals who were operating on the basis of a much higher market, there prevails a condition similar to that in other branches of industry, viz, a reduction to a more logical and natural level from a run of things exceedingly advanced.

MARKET FOR STATIONERY.

FIELD FOR AMERICAN MAKE—DEALERS ARE INTERESTED.

Consul Dunning also forwards the following report on the opportunity for American stationery in Italy:

The greater part of all the stationery used in Italy is imported from Germany. Very little native stock is seen on the market. The Italian manufacturer is not yet equipped to compete with his German neighbor, although he has made strong efforts to do so in this, as in nearly every other line. The German article is made attractive to the eye. Case after case is artistically arranged in show windows throughout Italy. Besides the finished appearance of the German article, it is very cheap in price.

American novelties are copied by foreign manufacturers and sold successfully on the Italian market. The quality of such stationery is poor. At present a superior quality is sought, even at a higher price, and it is claimed that the German manufacturers fail to furnish it. The American manufacturer has a good chance to supply this demand, which is large enough to bring him satisfactory profit and make it worth his while to export to Italy. The main advantage the American manufacturer has over the German is that he has a better quality and more abundant supply of wood, lead, and metal at his command. The German stationery sold in Italy does not compete with the American stock in quality and finish.

PENS AND PAPER—TRADE METHODS.

There is a large demand for pens. The most popular style is long and pointed, pierced three times above the point. An Italian educational rule says that this form must be used in all schools, which thus creates a large demand.

Finer grades of American business paper would find an excellent opening, nothing as good in quality being on the market at present, although there is a growing demand for it. The consulate has recently reported on the opportunity for American blotting paper in Italy.

The best method for the American manufacturer is to send a traveling salesman to Italy with a full line of samples to "drum up" the trade, but if this is impossible Milan importers of stationery could be addressed in Italian or French and supplied with samples and price lists. This system would undoubtedly bring results, as the consulate has had requests from local stationery importers to be put in touch with American manufacturers. This report is made in compliance with the request of these importers, whose names and addresses are furnished herewith [and may be secured from the Bureau of Manufactures].

General stationery (pens, penholders, etc.) entering Italy pays a duty of \$15.44 per 220 pounds. Stationery decorated with pure gold, silver, or silk pays \$28.95 per 220 pounds. The duty on writing paper, not ruled, is \$2.41 per 220 pounds; on envelopes, \$4.34 per 220 pounds.

UNITED KINGDOM.

BRITISH BUSINESS METHODS.

OPENING FOR AMERICAN CARD INDEXES AND FILING CABINETS IN ENGLAND.

Consul J. Perry Worden, of Bristol, reports as follows on the opportunity which offers for the introduction into England of improved apparatus for indexing and filing, and the American system of book-keeping:

Indexing by cards is almost unknown in Bristol and vicinity, and much of what is possible in demonstrating it remains to be done here. Probably not a dozen business houses use the card index extensively; hardly a physician or a lawyer here is aware of its convenience; not a stationer keeps in stock enough to give an intelligent idea of the method; and few, if any, printers prepare such cards, the largest wholesale pressmen reporting that they themselves stick to their ledgers and receive no orders for card-index printing.

One of the chief obstacles to be overcome is the conservatism of British merchants and professional men, but the fact that many English firms are already engaged in making loose-leaf ledgers proves that the people here need only be shown a really good thing in order to adopt it. A helpful factor in this city should be the use of the American card catalogue in the new Bristol Public Library—an institution equipped, in the main, with American apparatus. Another favoring condition, if properly kept in view, is the conviction of many

British merchants that their present systems of coinage and book-keeping are not conducive to economy in time and labor, and to the greatest success in modern business competition.

It will probably not be difficult to induce some firms to adopt American bookkeeping, with all the changes it involves, as a substitute for part, at least, of their own—one leading publisher here now keeping all his foreign transactions in terms of dollars and cents. In most cases, however, the ruling and other typography on index cards should be made up for pounds, shillings and pence, and to satisfy other English customs. It is even possible that entirely new devices in cards and indexing envelopes may be required to fully meet English demands.

HOW CARD INDEXES SHOULD BE INTRODUCED.

To introduce card indexing into Great Britain the American manufacturer should secure the services of representatives thoroughly familiar with British business and social ways and then supply them with all the outfit necessary to fully demonstrate the index and its wide adaptability. Such representatives should not dash through the country. It will take some time to meet and convince business men long accustomed to other methods, and a much longer time to even get at the body of professional men—physicians, lawyers, clergymen, professors, and others—who need these very time and labor saving devices and whose steady patronage will be so well worth securing.

At the very outset practical demonstration with the indexes themselves will be required to win over the skeptic, and not the exhibition of catalogues, however well illustrated, while depots conveniently located will be needed to supply the outfits ordered. The fullest stock of the more portable and lower-priced sets should be displayed first, being probably the most salable, but samples of the more extensive and elaborate indexes may be exhibited also. The small trader hesitates about stocking heavily in high-priced foreign goods, and is easily discouraged when repeatedly refused by regular patrons, and exclusive and often isolated agencies work up part only of the waiting trade. In the writer's judgment, therefore, it will always be best to have a thoroughly competent advance agent or two who can introduce the card index and get it well established, and who will work in close, friendly touch with the trade-folk generally. Of course care must be taken to forestall imitations.

PRICES AND QUALITY.

The superiority of American card indexes and cabinets in design and finish is clearly seen, and it remains for the American manufacturer merely to maintain the standard and see that the middleman's profits do not push up the selling price to a point beyond the average Englishman's resources. Some American apparatus now offered for sale here appears considerably higher in price than the same article at home, and this is clearly the case with certain English imitations.

In some respects, the English merchant often gravitates toward an inferior article in stationery and printing—pasteboard, instead of wooden drawers and filing cases, cheap writing paper, etc., being frequently used, which may be from economic necessity—while the English professional man, or retired gentleman, is very conservative about

departures from social tradition." His long reluctance to use the typewriter, in fact, gives warning that skill and tact may be necessary to convince him of the serviceableness in literary and highly differentiated work of the card index.

The American maker of card indexes, therefore, wishing to reach the English merchant and manufacturing trade, must consider whether it is best to provide inferior cards and cheap cases, such as those of pasteboard, or whether more will be gained in the long run by insisting that the best is always eventually the cheapest. Probably printing is cheaper here, owing to the difference in the wage scale, and to give full satisfaction to the customer it will be necessary to secure in each locality at least one first-class printer, capable of putting on index cards all the tabulations or forms they will carry.

FINELY FINISHED CABINETS.

Finely finished boxes and cabinets, harmonizing with an English gentleman's household furniture, especially cabinets that may be closed and locked, are most likely to appeal to him, and since dies are widely used on private stationery in England—nearly every family in good circumstances having a die at a stationer's, or using one for stamping paper and cards, without ink, at home—it is conceivable that index cards, stamped with monogram or crest, and cabineted in mahogany or Chippendale or Louis finish, or natural black walnut, may be considered the most attractive in the library. As to the matter of expense, freight rates are moderate between America and English ports; there is no duty on such indexing outfits, and the apparatus ought to be sold in England almost as cheap as in the United States, and could be offered here, perhaps, at even the same rate. The new docks of Bristol, promised for next summer, by which this city hopes to regain its former trade at sea, and to which consignments may then be sent direct, should favor the introduction in west England of just such American goods.

The American office or library file of several drawers, all of wood, is seldom seen here, and cabinets with roll-top fronts are less known even than the card index. Closing and locking cabinets, therefore, at prices not prohibitive, should attract the Englishman, who favors order and privacy in business, and who has an eye to neat office equipment. Most English people are sensitive about the finish of furniture for the home, and all want articles that are proof against the trying climatic changes of the country. No cabinet or other wooden furniture, therefore, should be sent here unless well dovetailed, fortified, and thoroughly seasoned, and not likely to require the services of carpenter and joiner, as many American desks do, which swell and crack when here a month. A satisfied patron is the best advertisement in the upbuilding of any trade, particularly among foreign nations.

SHOES IN ENGLAND.

GOOD MARKET FOR AMERICAN FOOTWEAR IN BRISTOL.

According to Consul Worden there is an excellent field for more trade in American shoes in Bristol, and he outlines how this may be secured:

This English city has a population of some 360,000; there are, perhaps, 90 to 100 shoe shops here, and yet there is only one store selling

exclusively American shoes, and another store selling American shoes together with shoes made in Scotland from British leather fitted to lasts imported from America. One or two American firms, well represented in Liverpool and other British cities, have not yet entered Bristol, and a leading manufacturer in the United States making a well-known shoe has lately taken away an agency from here, while establishing his own business house in London and seeking to draw trade from Bristol by means of mail orders. This is a rather doubtful procedure, probably, since the British public is not yet used to the system.

English shoe dealers maintain that the sale of American shoes is on the decline in England, but perhaps the highest compliment that can be paid to the American shoe industry is the frequent placard, "All British manufacture," in shoe-store windows here. These same dealers admit the excellence and sometimes the superiority of American uppers and patterns.

The objection to American shoes seems to be chiefly as to the leather used by American manufacturers in the soles. The contention is that while American makers get the hides into shape by the use of acids in a few weeks, the English tanner sticks to the old-fashioned process of eight or nine months of tanning, and produces in the end a sole leather unrivaled in the world. A company doing considerable business here has English butts sent to America, to be made up into American shoes, and seeks to overcome English prejudice by plainly stamping on each shoe the fact that the soles are of English leather.

ADAPTATION TO ENGLISH NEEDS.

Two conditions call for a different sole for shoes to be sold and worn in Great Britain than is generally offered and used in the United States. One is the greater rainfall and dampness here, and the other the indisposition of the English, both men and women, to wear rubber overshoes. The American manufacturer of shoes, therefore, who wishes to do business in Bristol should either secure English leather for the soles and make them up with as many breadths for each size as is possible, or send here a heavier sole, and one treated, perhaps with chemicals, to resist the moisture. Regard, also, should be paid to the preferences of the English for this or that style or height of shoe, a good walking shoe being always in demand here. Heavy, clumsy shoes are rapidly giving way to lighter and more shapely forms, so that England is in no sense a country for the poorer class of foot wear alone. Bristol has large shoe factories, but they turn out shoes sold chiefly in Wales and among the miners, in this respect doing a business similar to that of several large factories in the Middle West of America, and do not materially affect the local shoe trade.

Some American shoes sell here for the equivalent of \$5 or \$7, but the popular price is 16s. 6d., or \$4. If one or two makers of shoes selling at \$3.50, or even \$3, would come into the Bristol market and sell their products here at the equivalent of the home price in America, there is little doubt that the 2 to 4 shillings lower price would enable them to undersell the British manufacturer, who, it is assumed, is handicapped with slower and less productive service.

FRANCE.

LARGE INCREASE IN IMPORTS AND EXPORTS LAST YEAR.

Consul Louis Goldschmidt, of Nantes, transmits the following translation of an article, from a leading French journal, reviewing the foreign trade of France in 1907:

The commerce of France in 1907 amounted to 11,589,678,000 francs (\$2,236,807,854), an increase of 695,720,000 francs (\$134,273,960) over 1906. Although the last month of the year has not had, for the exterior commerce, as happy results as the preceding months, since it shows a considerable decrease in imports and exports, the balance sheet for 1907 is very favorable.

Imports last year increased 420,397,000 francs (\$81,136,621), of which 191,320,000 francs (\$36,924,760) fall under the head of raw materials. Exports increased 275,323,000 francs (\$53,137,339), of which 152,936,000 francs (\$29,516,648) represent manufactured articles. These figures constitute a striking testimony of the activity with which our industries have been pushed during the last year.

Under the head of food products, imports diminished in cereals, rice, flour, and wines, and increased in fruits, coffee, cattle, meats, fats, fish, cheese, butter, and eggs.

The increase in imports of raw materials has been considerable. The table which gives the details shows particularly the important increase in silk, cotton, oleaginous grains, mineral oils, coal, and ores. The only important decrease is in raw hides.

EXPORTS OF THE COUNTRY.

Under the head of exported foods and food products there was an increase of 38,000,000 francs (\$7,334,000) in round numbers. The articles which have benefited are farinaceous foods, wines, brandies, and raw sugar; there has been a decrease in butter, meats, and vegetables; fruits, refined sugar, and fish do not show any appreciable change. Under the head of raw materials, there were increases in iron and steel castings, wood and wood pulp, seed grains, wool, millinery plumes, and cotton, but a notable decrease in silk, rubber, raw hides, and copper. In regard to manufactured articles, in spite of a deficit of more than 27,500,000 francs (\$5,307,500) in December, the total increase was 152,936,000 francs (\$29,516,648). There is reason to be fully satisfied with such a result. With the exception of hides and leather goods, and ladies' wearing apparel, there has been an increase in all branches, and the increases affecting silk textiles, "articles de Paris," millinery, and artificial flowers merit special attention.

TRADE WITH THE PRINCIPAL COUNTRIES.

As usual the United Kingdom is shown to be France's best customer, as exports thereto amounted to 1,374,937,000 francs (\$265,362,841), an increase of 80,000,000 francs (\$15,440,000) over 1906. This is almost a record in French business relations with Great Britain.

The following shows the exports to the principal countries in their respective order: United Kingdom, 1,374,937,000 francs (\$265,362,841); Belgium, 865,362,000 francs (\$167,014,866); Germany,

656,747,000 francs (\$126,752,171); United States, 402,037,000 francs (\$77,593,141); Switzerland, 336,482,000 francs (\$64,941,026). Russia bought 58,000,000 francs (\$11,194,000), or hardly more than Turkey.

Among the French products of industries and agriculture sold to the United Kingdom, mention should particularly be made of raw skins, hides, and furs, plumes for millinery, potatoes and seed grains, raw and refined sugar, common woods, wines and brandies, pottery, glass, and crystal ware, toys and fancy goods, millinery and artificial flowers, and lastly, textiles in cotton, wool, and silk. British exports to France in 1907 made an advance of 114,500,000 francs (\$22,098,500).

With Germany, French commerce, in the aggregate, increased 59,000,000 francs (\$11,387,000). Much greater is the increase of business with Belgium—101,000,000 francs (\$19,493,000). In 1903 French exports to Belgium had decreased 3,500,000 francs (\$675,500); they show in 1907 an increase of 60,500,000 francs (\$11,676,500), or nearly 7 per cent.

In spite of the consequences of the financial crisis French exchanges with the United States have risen to 1,035,000,000 francs (\$199,755,000), which represents an increase of 45,000,000 francs (\$8,685,000) over the preceding year. True, it only bears on imports, as the exports have remained stationary or have even slightly decreased; but there is no reason to be alarmed over it, for no doubt as soon as the crisis is over the United States will again become the serious customer, which it has always been, for French articles of luxury.

It is with Austria-Hungary that the French trade movement has been relatively the most accentuated during the past year. The increase is particularly in favor of France to the extent of 8,329,000 francs (\$1,607,497) in exports, or 22.7 per cent, and 1,501,000 francs (\$289,693) in imports.

The journal adds that these aggregate results are encouraging for French merchants, manufacturers, and agriculturists, and that they are so also for those who, by their management and counsels, contributed to this progressive commercial expansion.

AUSTRIA.

TRADE WITH THE UNITED STATES.

STEADILY GROWING SALES OF MANUFACTURES TO THIS COUNTRY.

Consul-General W. A. Rublee, reporting from Vienna, states that the declared value of exports from the various consular districts of Austria, exclusive of Hungary, to the United States during the calendar years 1905, 1906, and 1907 is shown in the following table:

District.	1905.	1906.	1907.
Carlsbad.....	\$1,432,110	\$1,513,947	\$1,577,906
Prague.....	1,789,901	2,323,196	3,214,850
Reichenberg.....	2,682,404	3,187,876	3,330,661
Trieste.....	1,496,449	1,806,968	1,030,766
Vienna.....	5,421,106	6,189,124	7,194,626
Total.....	12,823,970	15,020,501	16,348,318

The increase of \$1,327,817 in the value of the declared exports during 1907, as compared with 1906, is not as marked as the increase during 1906, as compared with 1905, but it indicates that Austrian trade with the United States is flourishing as never before.

KAOLIN EXPORTS GO PRINCIPALLY TO GERMANY.

The exportation of kaolin from Austria is principally to Germany, which takes 95 per cent of the total export of this article. Of the remaining 5 per cent only a very small amount is exported to the United States, unless a portion of that exported to Germany is re-exported to the United States. According to the official statistics the direct export of kaolin from Austria to the United States in recent years was as follows: 1903, 80 tons; 1904, 122 tons; 1905, 343 tons. Since 1905 there is no mention of an export of kaolin to the United States in the official statistics. New York is the port of entry in the United States to which shipments of kaolin have been made.

The exports of kaolin from Austria during the years 1903 to 1906, inclusive, according to value and quantity, were as follows:

Year.	Tons.	Value.	Year.	Tons.	Value.
1903	191,198	\$930,000	1905	150,837	\$1,200,000
1904	140,732	1,120,000	1906	100,140	1,120,000

The average price of kaolin in recent years has been 3 crowns 50 heller (about 70 cents) per metric centner (220 pounds). Kaolin is found principally in Bohemia, though there is one kaolin works in Lower Austria at Aspang, from which, however, there has been no export to the United States.

COMMERCIAL TRAVELERS NECESSARY.

ACTIVE PERSISTENCE OF TRADE REPRESENTATIVES FOR SECURING ORDERS.

Consul John Twells, of Carlsbad, advises that American manufacturers have recently realized the expediency of exporting their goods to Austria-Hungary, and are making an effort to establish business relations with that country. The consul discusses direct and indirect sales methods as follows:

This consular office is in constant receipt of catalogues and other printed matter from the United States. In order, however, to procure new fields for the exportation of American goods into Austria it is advisable that the Austrian merchants be personally visited by the representatives of the American firms. Perhaps in no other country are merchants so much accustomed to be visited by salesmen and the representatives of manufacturers at their places of business as in Austria. In January nearly 800 commercial travelers and representatives of manufacturers from all parts of Austria, Germany, France, and other European countries canvassed this place of about 16,000 inhabitants, all at the same time, to work up business in the town and environs. It is asserted that during the first two months of the year at least 2,000 travelers endeavor to sell goods here.

The perseverance, energy, and skill with which these salesmen recommend and praise their goods is so strenuous that there are

scarcely any tradesmen who do not purchase perhaps 25 per cent more stock than they really need. This condition prevails not only in the towns of this consular district but over all the Austro-Hungarian Empire.

Under these conditions the mere sending of a few price lists or pamphlets in a foreign language—say in English, French, or Spanish—or the usual mode of advertising on a small scale is of little importance. There is no doubt that many American productions could be sold in Austria-Hungary, and that the quantity could be largely increased, especially as a friendly feeling exists in Austria toward the United States. However, business in Austria can in most cases only be done if the customers are visited personally by American merchants, their representatives, or responsible agents. The latter are obliged to pay large taxes in Austria, and they accept, as a rule, agencies only from first-class houses which are prepared to contribute moderately at least to their expenses.

SWITZERLAND.

EXPORTS TO THE UNITED STATES.

STATISTICS SHOWING THE TRADE FROM THE VARIOUS DISTRICTS.

Consul-General S. C. McFarland, writing from St. Gall, furnishes the following statistics of the exports of Switzerland to the United States for the periods enumerated, calendar years being meant:

	1905.	1906.	1907.		1905.	1906.	1907.
St. Gall	\$12,025,280	\$14,879,058	\$17,760,602	Berne	\$1,848,452	\$1,710,107	\$1,848,554
Basel	8,526,471	8,114,782	8,199,678	Chaux de			
Zurich	8,826,213	8,528,603	4,402,747	Fonds			
Lucerne.....	452,240	450,634	503,622	agency ..	\$1,524,362	1,623,714	1,366,526
Geneva	1,014,653	1,231,294	1,316,876	Total ..	24,766,572	27,248,556	31,045,569
Veveyagc'y	548,951	710,364	646,969				

* Figures for fiscal year.

The following statement shows the values by classification of the declared exports from Switzerland to the United States for the past two years:

Articles.	1906.	1907.	Articles.	1906.	1907.
Aniline colors.....	\$798,010	\$763,655	Music boxes.....	\$43,151	\$32,854
Cheese.....	1,833,569	2,107,186	Scientific instruments.....	81,508	82,850
Chemicals.....	180,931	182,989	Silk productions.....	4,117,126	4,693,667
Chocolate.....	666,012	590,649	Spirits.....	23,664	24,429
Condensed milk.....	27,179	89,795	Straw goods.....	85,564	101,596
Cotton goods and yarn.....	1,462,491	1,519,518	Watches, clocks, etc.....	2,409,517	2,522,043
Embroideries.....	13,261,960	16,212,547	Miscellaneous.....	1,827,329	1,072,010
Hides and leather.....	859,156	511,928	Total.....	27,248,570	31,045,570
Knit goods.....	502,037	547,178			
Machinery.....	119,352	90,676			

FURTHER DECLINE IN EXPORTS FROM ST. GALL.

The effects of the recent American financial disturbance upon the St. Gall industries is shown by the exports from this district for the first two months of the present year.

Exports to the United States for January and February show a decrease of \$536,982, as compared with exports for the same period

in 1907. Carried through the year this would result in a decrease of \$3,221,892, reducing the export figures of \$17,760,602 of 1907 to \$14,538,709. As much of the business of 1908 so far has involved the execution of orders received prior to October, 1907, it is reasonable to expect that the next few months will show a still greater proportionate decrease, to be offset, it is hoped in trade circles, by an increase of new business in the summer and fall.

Prices, while suffering somewhat, have been supported by united action in reducing output and curtailing working hours, many of the larger concerns running but six hours per day, while individual and house workers are practically at a standstill. Besides the curtailing of working hours, wages have suffered severely, allied industries being also affected. An examination of the figures will demonstrate that the full effects of the slump have probably not yet been recorded.

COMPARISON WITH LAST YEAR.

The following are the exports for January and February for the respective years:

Articles.	1907.	1908.
Appenzell goods.....	\$2,642	\$600
Boiling cloth, silk.....	11,464	7,349
Cheese.....	71,641	40,960
Church articles.....	1,474	2,847
Cotton embroidery, hand machine.....	666,826	371,408
Cotton embroidery, schiffli machine.....	1,560,994	1,570,358
Cotton laces and trimmings, hand machine.....	29,955	13,624
Cotton laces and trimmings, schiffli machine.....	138,540	91,466
Collars, blouses, robes, ties, etc.....	67,875	43,169
Curtains.....	170,685	131,739
Figured and dotted swisses, woven.....	97,054	56,478
Figured and dotted swisses, embroidered.....	24,519	13,252
Gegauf, ticks, and other sewed articles.....	3,801	2,381
Handkerchiefs.....	44,296	58,735
Job of hand machine embroidery.....	15,549	14,852
Job of schiffli machine embroidery.....	22,052	34,265
Job of handkerchiefs.....	3,530	5,379
Kilo embroidery imperfection, hand machine.....	2,358	3,276
Kilo embroidery imperfection, schiffli machine.....	31,637	42,559
Machines and parts thereof.....	6,624	1,806
Plain cotton cloth, muslin, nainsook.....	76,054	46,748
Plain cotton cloth, typewriting, etc.....	2,548	
Ribbons.....		344
Silk laces and trimmings, hand machine.....	49,163	22,885
Silk laces and trimmings, schiffli machine.....	12,656	6,224
Tidies, pillow shams, scarfs, etc.....	23,969	15,395
Yarn.....	3,858	2,734
Miscellaneous.....	12,131	9,849
Export to the Philippines, chiefly cotton cloth and cotton threads.....	3,200	2,961
Packing, consular charges, etc., not included in above.....		6,925
Total.....	3,157,094	2,620,110

TRADE MAINTENANCE.

LUCERNE DISTRICT SHOWS NO DECLINE IN EXPORTS TO AMERICA.

A report from Consul R. E. Mansfield, at Lucerne, states that the financial crisis and the stringency of the money market in the United States seem to have had little or no adverse effect upon the export trade with America from that consular district of Switzerland, as the following will show:

December showed a larger value of exports than any other month in the year 1907 and greater than for any month in 1906. In fact, the last three months of the past year show an increase in the volume

and the values of exports to the States over the corresponding months of the preceding year. This increase may be partially due, however, to the fact that Swiss exporters were filling American orders already on their books as rapidly as possible during the last months of the year, fearing that delay might mean cancellation. Another fact may be taken into consideration, and that is the shipments made in the early winter were on orders received previous to the financial disturbance.

COMPARISONS FOR JANUARY.

A comparison of the figures representing the export trade of the Lucerne district with the United States for the month of January, 1908, with the corresponding period of the previous year furnishes further evidence of the fact that the financial disturbance which characterized the closing months of the last year's business in America has not influenced adversely the export trade from this locality. The number of invoices consulated in January was greater than during the corresponding period of the preceding year. The value of exports from the district to the States for January, 1908, amounted to \$25,040 more than is shown for the same month in 1907.

The foreign commerce of this district, both in imports and exports, is of a class that is not sensitive to the influence of financial disturbances, as it consists more of articles that may be classed as stable rather than luxuries. Straw and imitation straw goods, large quantities of which are exported from this district to America, seem to have felt the effects of the depression very little. In silk ribbons, cotton tapes, scientific instruments, cheese, clocks, brushes, etc., there seems to have been practically no diminution of trade in recent months, and the majority of the manufacturers of these articles report that they are not apprehensive of any considerable decrease in trade during the year 1908.

Manufacturers of knit goods, lisle, silk, and cotton underwear report that the American financial situation has already had the effect of materially decreasing their export trade with the States, and some of them take a not hopeful view of the situation for the future. The manufacturers of chocolate also complain of decreasing trade, and regard the conditions as unfavorable for this year's trade.

AMERICAN GOODS IN SWITZERLAND.

The articles imported to this district from the United States cover a wide range and come largely within the class of stable or articles of utility, such as shoes, wearing apparel, hardware, machinery, oils, druggists' sundries, toilet articles, canned goods, and other food supplies of various kinds. The demand for American imports is increasing, and the prospects for satisfactory trade from the United States in the markets of the district for the year 1908 seems very favorable.

A favorable indication of the exchange of commerce between this district and America is the fact that there has been no general increase in the exports, whereas the increase of imports from the States to the local markets has been very perceptible. Although definite statistics on the import trade of the district are not available, the increase in trade is evidenced by the fact that many articles of Amer-

ican manufacture have been added to the displays in local shops in the last few years. Flour, iron, steel, lumber, shoes, and various classes of machinery may be reckoned among the more recent articles of import from the United States introduced in the local markets.

SWISS BRANCH FACTORIES IN UNITED STATES.

On account of changed conditions in the industrial life in Switzerland a number of manufacturers in this consular district are planning to establish branch concerns in the United States, where they are endeavoring to enlist American capital in the enterprises. The increased cost of labor in recent years, together with high tariff duties, renders it difficult for Swiss manufacturers to compete with the local producers of like articles in the American markets. The labor question is becoming a serious problem in the industrial life of the country.

Heretofore some Swiss manufacturers have been able to work along rather primitive lines and still produce articles at a cost that enabled them to export to America, pay import duties, compete successfully, and make good profits because of the comparatively low wages paid their workmen and mechanics. But a series of prosperous years, a shortage of labor, and the increased cost of living have practically doubled the wage scale in the past year or two, which necessitates a change in the methods employed in the industrial concerns in order to meet the requirements of changed conditions. As a result many of the manufacturers are putting in new and improved machinery and equipping their plants with facilities to reduce to the minimum the number of employees. These changes tend to place them more nearly upon an equal footing with competitors in other countries and lessen their opportunities for profitable business in the United States.

On the other hand, the demand for articles that Switzerland requires from America is increasing, and the outlook for the balance of trade in favor of the States is flattering.

GERMANY.

AGRICULTURAL MACHINERY TRADE.

THE IMPORTATIONS GREATLY EXCEED THE EXPORTATIONS.

Consul Talbot J. Albert, writing from Brunswick, says that during the last ten years the German machinery industry has developed greatly in all its branches, and especially in the agricultural line. He reviews the trade as follows:

The increase in the exports of machinery of various kinds is noteworthy. In value the export is now about four times as great as the import of foreign machinery. However, the imports are not small, and in the first nine months of 1907 reached a value of between \$18,000,000 and \$19,000,000. Of this sum the imports of agricultural machinery attained the round sum of \$5,500,000, and, as compared with the exports of the like kinds of machines, which amounted in value to \$2,500,000, show a difference in favor of imports of about \$3,000,000. The following table shows the German

imports and exports in marks (mark=23.8 cents) of agricultural machines from January 1 to October 1, 1907:

Machines.	Imports.	Exports.
	<i>Marks.</i>	<i>Marks.</i>
Mowing machines	18,111,000	365,000
Milk-skimming machines	1,896,000	2,754,000
Threshing machines	1,273,000	2,840,000
Steam plows	632,000	386,000
Lawn mowers and other machines	970,000	4,122,000

It will be seen that about four-fifths of the imports of agricultural machinery during the period mentioned consisted of mowing machines, and that the imports are almost fifty times greater than the exports of these machines. Of these, American machines had the preference. The total weight of the mowing machines imported during the first nine months of 1907 was 278,633 German double centner (double centner=220 pounds), of which the United States furnished 230,361, Canada 33,729, and England 12,585.

There were in all 52,021 mowing machines imported. During the same period there were imported 730 thrashing machines, weighing 19,774 double centner, England supplying 17,352, Canada 708, and the United States 698. The customs duty on mowing machines amounts to 4 marks (95 cents) and on thrashing machines 4½ to 7 marks (\$1.07 to \$1.67) per double centner, according to weight.

The greater part of the imports of milk-skimming machines comes from Sweden, and this arises from the commercial treaty between that country and Germany by which the duty on these machines was considerably lowered. There were in all 20,582 of these machines imported, weighing 5,638 double centner; the weight of the machines imported from Sweden being 4,800 and those from Denmark 344 double centner.

There were 41 steam plows imported, weighing 7,434 double centner, exclusively from England. The imports of lawn mowers and other agricultural machines amounted to 9,853 machines, weighing 14,674 double centner, 7,788 of which came from the United States, 4,299 from Austria-Hungary, 1,044 from Denmark, and 650 from England.

The exports from Germany of lawn mowers and other agricultural machines in this group and of milk-skimming machines, as will be seen from the first tabular statement, were greater than the imports.

OPPORTUNITIES IN WIESBADEN.

ROOM FOR INCREASED SALES OF AMERICAN GOODS IN PRUSSIA.

In transmitting a directory of the commercial firms registered in Wiesbaden, which is on file in the Bureau of Manufactures, Consular Agent John B. Brewer writes as follows on the trade of that city with the United States:

While the export trade from this district to the United States, especially in wines and chemicals, is satisfactory, there seems to be not much of a chance, as yet, for direct imports from the United States. Wiesbaden relies almost exclusively on the larger German commercial centers for its imports, the dealers being mostly retailers. There is, however, no lack of interest in American goods. In fact,

some of them are very much appreciated, and it may prove a fruitful experiment to have some of the more prominent Wiesbaden dealers brought into closer contact with American manufacturers by means of pamphlets, catalogues, etc.

In all probability the dealers would then interest their importing friends, and thus a greater demand—that is, larger and more varied orders—would follow. A special list is inclosed of the prominent Wiesbaden dealers in such goods as may be successfully introduced from the United States, some of which are already known here, viz: Automobiles, bicycles, firearms, glass and crystal, groceries, household and kitchen articles, office furniture, perfumery and soaps, pianos, rubber goods, sewing machines, shoes, sporting goods, and typewriting machines. [Addresses of dealers in these goods are on file in the Bureau of Manufactures.]

GREECE.

CONDITIONS FAVORABLE TO AMERICAN TRADE IN CALAMATA.

The following information relative to the commercial importance of Calamata, and the growing desire of its merchants for trade with the United States, is furnished by Consul Edward I. Nathan, of Patras:

Calamata, a city of 20,000 inhabitants, in southwestern Greece, has recently become of considerable commercial importance; its numerous industrial establishments and its large exports of native products have produced much wealth and prosperity. It has two silk-thread factories, two steam refineries for olive oil, four olive-oil soap factories, a wine and spirit manufactory, and various smaller industries. It exports about 30,000 tons of currants annually, about one-third of which go to the United States. Large quantities of figs, olives, olive oil, cheese, and other native products are also shipped. The value of all exports to the United States in 1907 was \$166,414.

Calamata possesses a fine harbor, protected by a long breakwater and two moles. Its depth varies from 2 to 6 meters (6.65 to 19.7 feet), but a uniform depth of 6 meters will prevail when the plans for its dredging are materialized. Calamata is an important port of call for many Levant and trans-Atlantic vessels; among the various lines calling there are the Austrian Lloyd, Austro-Americano, Panhellenique, Greek Trans-Atlantic, and Messageries Maritimes.

MUNICIPAL IMPROVEMENTS—FOREIGN GOODS WANTED.

Calamata also possesses a municipal electric light and power plant which furnishes light for public and private consumption. There is also a telephone exchange with many subscribers. An electric street railway is about to be constructed, a company having already been formed for this purpose.

A great proportion of the Greek emigration to the United States started from Calamata, and many are now returning, bringing with them products of American manufacture, and American tastes and ideas of living. This should mean a demand for American goods. The merchants of Calamata appear desirous to trade with America, many of them having been in the United States and knowing its superior advantages, yet with all the shipping facilities possessed by Calamata, and other Greek ports, and the regular, frequent, and

cheap freight facilities, the Greek market has been almost entirely neglected by American manufacturers and exporters.

There is a demand for cheap hardware and small machinery, including printing and bookbinding equipment. Among the articles that are sold in considerable quantities are cutlery, scissors, locks, belts, screws, and nails, meat choppers, sewing machines, and pumps. [The principal dealers at Calamata in the foregoing merchandise, as well as the name of the official who may be addressed in regard to the new street railway, may be obtained from the Bureau of Manufactures.]

SPAIN.

REDUCED TRANSPORT DUES.

MODIFICATION OF CHARGES ON GOODS FROM AND TO THE UNITED STATES.

The following information concerning the landing and shipping dues paid by passengers entering Spain and the tax on goods arriving from and clearing for the United States, under the old and the modified regulations, is furnished by Consul-General B. H. Ridgely, of Barcelona:

Beginning with the year 1908, the impuesto de transporte (transport dues) levied on all goods landed at Spanish ports, and which amounted to 5 pesetas per ton on European imports and 7 pesetas on merchandise arriving from the United States, will in future be the same on all imports whether arriving from American or European ports, the rate being with a few exceptions 5 pesetas per ton. At Barcelona an additional tax amounting to 1.5 pesetas per ton is imposed for the harbor works.

Passengers who formerly paid landing and shipping dues amounting to 25 pesetas on each first-class ticket, 15 pesetas on each second-class ticket, and 5 pesetas on a third-class or steerage ticket, now pay only 4, 2, and 1 pesetas, respectively.

OLD AND NEW RATES.

The modifications introduced into this transport tax will slightly alter the charges on certain goods received from and shipped to the United States, as the following table, giving the amounts in silver pesetas, will show:

[The Spanish gold peseta is equal to 19.3 American cents, but the silver peseta has a fluctuating value in its relation to gold of from 15 to 18 cents.]

Articles.	Goods landed from the United States.		Goods shipped to the United States.	
	Former tax.	Present tax.	Former tax.	Present tax.
Minerals, dross, and iron pyrites.....	1.00	1.00	0.20	0.20
Other ores.....	2.00	1.00	2.00	1.00
Coal and coke.....	2.00	.50	.50	Free.
Lime, paving stones, and building materials.....	.50	.50	.50	.50
Pig iron.....	2.00	2.00	.50	Free.
Lead, in pigs, and copper regulus.....	3.00	2.00	1.00	1.00
Salt.....	3.00	3.00	.10	.10
Fertilizers.....	2.00	2.00	.25	Free.
Cereals.....	5.00	4.00	2.50	Free.
Wine.....	5.00	4.00	2.50	2.00
All other goods and coins.....	7.00	5.00	5.00	2.50

The following is a full list of goods which will pay no transport tax on their being exported from Spain: Coal and coke; bricks and tiles, earthenware, porcelain and china, and cement; iron in pigs, forged bars, old rails, iron and steel manufactures, swords and fire-arms; common soap; cotton, linen, silk, hemp, and woolen textures; hair and bristles; lumber; paper and paper manufactures; furriery, leather, and shoes; all kinds of fertilizers; machines and instruments; pressed and salted sardines, and other fish; cereals and flour; fruits and vegetables; sugar; ground pepper; spirits, liquors, beer, alcohol, cider, light red wine, and vinegar; alimentary canned goods, sausages, chocolate, candies, eggs, vermicelli, bread, biscuits, cheese, and honey; fans, sandals, matches, fishing leaders, playing cards, pouches, umbrellas and sunshades, hats, and haberdashery of all kinds.

GROWING AMERICAN TRADE.

INCREASED EXPORTS LAST YEAR TO THE UNITED STATES.

In studying the whole list of exports from Spain to the United States during 1907 as compared with those of 1906, the following important increases are noted by Consul-General Ridgely:

Sherry, \$101,000; other wines, \$71,000; corks, \$540,000; cork shavings, \$18,000; corkwood, \$95,000; almonds, \$255,000; sardines, \$42,000; cotton cloth, \$24,000; arsenic, \$61,000; glycerine, \$34,000; fireworks, \$11,000; tanned hides, \$45,000; canned vegetables, \$58,000; wool, \$22,000; grapes (Almeria-Malaga), \$450,000; iron oar, \$487,000; olives, \$153,000; onions, \$88,000; peanuts, \$154,000; raisins, \$155,000; and lead, \$266,000. The total of all exports to the United States from Spain in 1907 was \$13,998,695, against \$11,000,628 in 1906.

CHINA.

TATSIENTLU THE GATEWAY TO TIBET—COMMERCE AND TRANSPORTATION.

Consul Mason Mitchell, reporting from Chungking, gives the following information of the little-known region of western China and the Tibetan borderland:

Tatsienlu, in the province of Szechwan, western China, is the last town before reaching the Tibetan border. It is situated at an elevation of 8,400 feet, in the high mountains that extend through western China into Tibet. To reach Tatsienlu from Chungking it requires twenty-one days and from there to the Tibetan line eighteen additional days, the route crossing mountain passes over 15,000 feet high.

Until the present dynasty the Tibetan boundary line extended as far east as Tatsienlu, but under the present régime it is now drawn eighteen days' travel farther west, at the town of Batang. As this border strip of territory is mostly populated by Tibetans, they are under the jurisdiction of 3 Tibetan kings, each having his district, but all under the sovereignty of the Chinese Government.

Tatsienlu is a small town, with low wooden houses and a population of 9,000, mostly Tibetans. Its strategical and commercial importance is due to being the gateway to Tibet and the high plateaus to

the northwest. In this district are the splendid grazing pastures, where a fine quality of wool is produced. Farther on is the Tachin River, which forms the boundary between eastern Tibet and one of the aboriginal Chinese tribes called the Mantzu.

A large trade is done here in rhubarb and musk, the latter taken from the small hornless deer plentiful in this part of China. Of the exports of this district musk is the most valuable, the price of the medium quality being thirteen times its weight in silver.

The product is obtained from a sac-like gland in the abdomen. It is carefully dried and sewn in small bags, called musk pods, of 1 ounce each, made from the skin of the animal. The musk deer of northwestern China is an allied species and is only found at an elevation over 8,000 feet. It stands about 20 inches at the shoulder, but its chief characteristic is the absence of antlers in both sexes. The males have tusks protruding from the lower jaw to a length of 3 inches. The species is known as the *Moschus sifanicus*.

Next in importance of exports is wool. This trade of late has diminished, owing to the disturbances on the border. The coarse sack-like wool cloth "mu-tsz" is worn by all Chinese coolies, while a fine grade dyed red called "pulu" is the clothing of the higher class of the Tibetans. The lower classes, such as yak and pony drivers, wear entirely undressed sheepskins. About 45,000 pounds of wool is received annually in Tatsienlu.

GOLD MINING—TEA AND AMERICAN DRILLS—NEW RAILROAD.

Gold is known as "Huang huo" and is brought for sale in the form of dust, though sometimes nuggets are found. From 5,000 to 7,000 ounces come to Tatsienlu annually. But little profit is made there, as it brings only \$20 to \$24 per ounce. The Tibetan confines mining to washing the alluvial sand in the river beds. He is averse to outsiders mining in his country, his antipathy to them being very great. The Tibetan wishes to be let alone and strongly resents foreign intrusion.

The exports from western China into Tibet consist almost entirely of tea. The shipments via Tatsienlu come principally from the town of Yachow, in Szechwan Province. The tea packages are made up in rolls about 3 feet long. Each carrier will take on his back from five to thirteen, according to his age and strength. The annual value of the trade is somewhat over \$750,000. The taxation amounts to 20 per cent, the bulk of which goes to the salt and tea taotai at Chingtu, the capital city of Szechwan Province. There is also a small amount of American drills dyed in Yachow going forward for the Tibetan market.

A French railroad is in course of construction from Pakhoi, on the Gulf of Tongking, to Yünnan, the capital city of the province of that name, in the southwest of China. When completed it is proposed to extend it to Batang, a distance of about 400 miles. If this is done it will give eastern Tibet and western China an all-rail route to the sea and divert the traffic from the long and laborious route via the Yangtze River. From Batang to Suifu, the head of navigation of the Yangtze, is a march of thirty-two days over the mountains, some of which are 15,000 feet in height. From Suifu to the mouth of the Yangtze at Shanghai is a distance of 1,600 miles, including the gorges and rapids of the upper part of the river.

BRITISH INDIA.

IMPORTS AND EXPORTS OF MERCHANDISE AND TREASURE LAST YEAR.

Consul-General William H. Michael, of Calcutta, furnishes the following summary of the sea-borne trade of British India for the calendar year 1907. The imports of merchandise are those entered for consumption, the re-exports being deducted from the imports of each province, while the exports cover only Indian merchandise:

Provinces.	Imports.	Exports.	Provinces.	Imports.	Exports.
Merchandise:			Treasure—Cont'd.		
Bengal.....	\$166,212,075	\$253,876,765	Eastern Bengal and Assam.....	\$46,815	
Eastern Bengal and Assam.....	1,567,890	12,946,550	Bombay.....	72,021,665	\$13,925,885
Bombay.....	132,409,480	114,768,900	Sind.....	2,501,905	380,080
Sind.....	30,643,030	65,396,760	Madras.....	2,841,890	1,344,880
Madras.....	31,511,530	62,553,210	Burma.....	617,200	82,080
Burma.....	32,834,640	55,123,270			
Total.....	305,178,645	564,655,455	Total.....	102,914,445	16,890,770
Government stores.....	23,105,115	456,110	Government treasure.....	44,282,105	6,175
Treasure:			Grand total, merchandise, stores, and treasure.....	565,480,310	582,008,510
Bengal.....	24,886,070	1,158,945			

The reexports of merchandise, not included in the foregoing statement, were as follows: From Bombay, \$9,578,655; Sind, \$1,654,350; Bengal, \$834,830; Madras, \$378,480; Burma, \$223,500; Eastern Bengal and Assam, \$350; total, \$12,670,165.

LARGE CALCUTTA SHIPMENTS TO AMERICAN CUSTOMERS.

During the year ending December 31, 1907, the number of cowhides shipped from Calcutta was 7,483,324, which were mostly exported to Germany and Austria. The number of goatskins exported from Calcutta was 11,305,675, of which the United States took over 9,000,000, valued at \$6,906,751. The number of buffalo hides shipped was 897,352, about one-half of which went to America, the remainder going to the Continent. More than 500,000 calf and sheep skins were exported, about 90 per cent of the former going to the Continent, and about 50 per cent of the latter to the United States. There were 206,360 chests of various kinds of shellac exported, of which the United States took about two-thirds, the balance going to the Continent and England.

The following table shows the value of exports to the United States through the port of Calcutta during twelve months ending December 31, 1907:

Articles.	Value.	Articles.	Value.
Chikron embroideries.....	\$51,523	Rubber.....	\$68,876
Drugs.....	5,543,471	Saltpeter.....	670,580
Gunny bags.....	2,848,775	Sl'ns.....	6,906,751
Gunny cloth.....	20,410,666	Tea.....	260,649
Hides.....	1,157,854	Wool.....	95,417
Jute and jute butta.....	7,061,611	Miscellaneous.....	24,707
Mica.....	262,809		

The foregoing shipments to America, \$45,262,083, do not include the value of tea exports intended for the United States, but which passed through Liverpool and London houses.

STRAITS SETTLEMENTS.

ANNUAL VOLUME OF MALAYSIAN PRODUCTS FOR WORLD CONSUMPTION.

The following table prepared by Vice-Consul-General George E. Chamberlin shows the quantity in tons (2,240 pounds) of exports of the principal products from the Straits Settlements, including the ports of Singapore and Penang, for the years 1906 and 1907:

Article.	United States.		Europe.		Total all countries.	
	1907.	1906.	1907.	1906.	1907.	1906.
Olives.....	14	120	83	63	47	133
Office.....	226	504	237	838	463	1,342
Copra.....			56,830	40,476	56,830	40,476
Cubebs.....	17	40			17	40
Gambier.....	11,090	13,967	14,456	15,894	25,546	29,861
Gambier cube.....	1,069	1,390	2,412	2,069	3,481	3,449
Gum:						
Benjamin.....	13	23	304	462	316	485
Copal.....	4,434	4,188	5,589	4,867	10,023	9,005
Dammar.....	332	190	405	246	737	436
Gutta-percha.....	413	839	2,651	2,353	3,064	2,693
Gutta jelotong.....	12,644	9,681	2,297	1,318	14,941	10,999
Hides:						
Raw.....	399	284	2,855	3,235	3,254	3,519
Tanned.....			253	227	253	227
Isinglass.....			36	39	36	39
Malacca cane.....			21	26	21	26
Mace.....	56	31	21	23	77	54
Nutmegs.....	649	400	145	175	794	575
Pepper:						
Black.....	5,947	5,139	10,069	8,148	16,016	13,287
White.....	1,634	1,861	4,662	5,320	6,296	7,181
Pineapples (cases).....	290,389	103,734	460,003	402,055	759,392	505,789
Rubber:						
Borneo.....	797	842	716	1,278	1,513	2,120
India.....	1		289	365	290	365
Para.....	3	6	715	328	718	334
Rattans.....	5,009	5,096	13,253	12,844	18,267	17,940
Sago:						
Flour.....	5,243	4,473	42,429	34,265	47,672	38,738
Pearl.....	710	158	2,797	3,763	3,507	3,921
Stielac.....	1		99	132	100	132
Taploca:						
Flake.....	1,427	845	3,419	10,835	9,346	11,680
Flour.....	50	1,725	1,724	5,950	1,774	7,675
Pearl.....	8,317	6,696	10,965	7,780	19,282	14,376
Tin.....	9,738	15,183	42,819	42,047	52,557	57,180

PHILIPPINE ISLANDS.

GROWTH OF IMPORTS AND EXPORTS—AMERICAN SHIPPING.

Consul Jacob E. Conner, of Saigon, Cochin China, sends the following summarized report upon the commerce of the Philippines for the year 1907, as shown by the annual report of the Bureau of Customs:

The total value of Philippine imports last year was \$29,666,140, an increase of 15 per cent over that of the preceding year. The total value of exports was \$34,127,253, an increase of 4 per cent. The imports from the leading countries were as follows:

Country.	Amount.	Country.	Amount.
United States.....	\$5,664,254	Japan.....	\$1,010,043
England.....	6,023,040	British Australasia.....	1,753,874
Germany.....	1,665,422	British East Indies.....	1,623,299
Spain.....	1,766,667	French East Indies.....	3,474,236
Chinese Empire.....	2,769,715		

French East Indies, of which Saigon is the chief port, for some years at the head of the list, dropped from first place in 1905 to third in 1907, on account of the decline in importations of rice. This decline is in turn due to the fact that the Philippines are supplying their own needs more completely in that commodity. Also that wheat flour is taking the place of rice, as indicated by the growth of imports of the former.

TRADE WITH THE UNITED STATES.

It is to be noted that imports from the United States have gained in about the same proportion as have those of England, in spite of the fact that the carrying trade of the United States shows a marked decline, while that of England has noticeably increased. A few of the leading imports and the values thereof are:

Cotton, closely woven cloth--	\$4,607,059	Cattle-----	\$1,058,824
Cotton, loosely woven cloth--	1,005,691	Wheat flour-----	889,174
Cotton, yarn and thread-----	1,321,778	Iron and steel and manu-	
Cotton, knit fabrics-----	900,000	factures of-----	2,544,992
Rice-----	3,662,493		

Importations of illuminating oil have practically doubled during the year, amounting in all to \$790,447. Of this the United States supplied \$551,699, an increase of \$279,468. But the percentage of the United States in the total traffic fell from 75 to 69, while that of the Dutch East Indies increased from 12 to 25, and the British East Indies from nothing to 4. Russia dropped out of the competition.

Of the \$900,000 worth of wheat flour imported, less than \$400,000 worth came from the United States. Australia's percentage has risen gradually to 58. The report states that "it can hardly be doubted that the application of the coastwise trade laws in 1909 will probably give this entire trade to Australia."

The race for supremacy in the import trade of the Philippine Islands lies between the United States and England.

HEMP THE LEADING EXPORT—THE CARRYING TRADE.

The value of exports, inclusive of currency, during the past year is the greatest in the history of American occupation. More than a third of the values went to the United States, while England ranked second and France third as a customer.

Hemp is still the chief article of export, the value amounting to \$21,085,081, or 41 per cent of the total exports, a gain during the year of \$1,638,312. This was largely due to an advance in price, though the tonnage also increased. More than half of the crop went to the United States.

Marked changes are observed in the carrying trade during the past year. British vessels carried 56 per cent of the volume of imports and 76 per cent of the exports for 1907, an increase for the former from \$14,940,984 to \$16,697,111, and for the latter from \$25,294,385 to \$26,015,019. Spanish, German, Japanese, and Philippine vessels show a decline in import cargo trade from \$1,783,266 in 1906 to \$942,940 in 1907, and an equally marked decline in the export trade. Of imports from the United States only 16.6 per cent was carried in American bottoms.

Unless more American bottoms are to be found for the traffic at competitive freight rates, the traffic must necessarily go to other countries in foreign bottoms. Up to the present there is no reason to expect any other result.

BRITISH SOUTH AFRICA.**DECLINE IN TRANSVAAL IMPORTS—COUNTRIES AFFECTED.**

Consul John H. Snodgrass, writing from Pretoria, says that during the first three quarters of 1907 the 275,000 white people of the Transvaal imported goods to the value of \$59,353,460, as against \$68,879,810 for the previous year, and about \$77,000,000 for 1904. He discusses the trade details as follows:

The total exports for the nine months period of 1907 amounted to \$103,147,360, of which \$95,978,635 was the value of the gold mined within this colony; \$7,320,115 represented diamonds, and the exporter of South African produce came far behind with approximately \$3,500,000. It is quite evident from these figures that the Transvaal is not spending as much with the outside world as formerly, though the diminution in population may make up for part of the deficiency. There has been a general exodus of white settlers for the past three years, and the tide is not yet turned in the other direction. In fact, the present government does not invite immigration just now for the reason that they have nothing to offer to poor settlers. In truth, under the new immigration law, that went into effect on the first of the year, it is difficult for persons of small means to enter.

INTERCOLONIAL SUPPLANTING FOREIGN TRADE.

A comparative statement of imports into this colony for the year 1907 with previous years is interesting inasmuch as it is quite evident that the colonists are purchasing more and more from each other in the way of produce, and the demand for canned products is gradually growing less.

Imported malt liquors during the nine months in question amounted to only \$137,500, which represented 179,336 gallons of imported beer and ale; \$50,000 less was spent on the beer bill than for a similar period of 1906. Having given this check to the producers of malt liquors, the people of the Transvaal are limiting the whisky trade. In 1906, 450,220 gallons of spirits, valued at \$939,840, were consumed; in 1907 that was reduced to 435,978 gallons, valued at \$850,250. The consumer was equally temperate in the use of wines, reducing his bill from \$108,420 in 1906 to \$97,295 in 1907; the heaviest loss was felt by over-sea exporters, as a great deal less champagne was consumed than formerly. This trade dropped from 10,643 gallons, worth \$88,880 in 1906, to 8,954 gallons, valued at \$25,390 in 1907.

DECLINE IN TOBACCO, FOOD, AND DRINK.

The same retrenchment was carried on with respect to tobacco. Here a reduction of \$105,000 was effected in the nine months. However, the smoke bill amounted to \$843,830, of which the neighboring colonies received benefits to the amount of \$591,685, while the over-sea bill aggregated \$222,145. This account, however, does not include a vast sum spent in purchasing the local production. It is estimated that for each man, woman, and child in the Transvaal the round sum of \$5 per year is spent for tobacco. The cigar trade fell off from \$200,000 in 1906 to \$120,775, but cigarettes evidently were

in favor and increased from \$344,565 to \$352,645. Analyzing the smoke bill, it is found that \$360,000 was for pipe tobacco, \$121,000 for cigars, \$355,000 for cigarettes, and \$10,000 for snuff. Less tobacco meant fewer pipes, and only \$58,000 was spent on briar and calabash pipes, as compared with \$73,000 last year.

On food and drink, as a whole, the Transvaal spent, roughly, \$500,000 less in the first nine months of 1907 than in the corresponding period of 1906, the bills having been, respectively, \$15,608,700 and \$16,116,275. This decrease does not affect all articles of consumption. There were 2,000,000 fewer eggs imported; 3,000,000 pounds more of beef; 2,000,000 pounds less of mutton; 200,000 pounds less of pork, and \$30,000 worth less of poultry and game. With fewer eggs, there was a greater demand for bacon, the imports of which went up from \$377,645 in 1906 to \$379,460 in 1907, the American exporters reaping the benefit. Imports of butter went up from 3,253,367 pounds in the 1906 period to 3,458,852 in 1907. The consumption of rice rose from \$360,000 to \$470,000, this being due entirely to the Chinese population on the gold fields.

FURNITURE, HARDWARE, JEWELRY, ETC.

Big shrinkages are noticeable under the heading "furniture." For example, in 1906 the Transvaal imported \$120,000 worth of bedsteads; last year it was content with expending \$47,000 on the same articles. Billiard ware dropped from \$32,000 in 1906 to \$14,000; carpets from \$137,000 to \$36,000. Imports of furniture as a whole declined by over 50 per cent—from \$1,387,465 to \$547,040. Hardware dealers were equally affected, the imports having sunk from over \$2,000,000 to less than \$1,500,000; \$150,000 less was spent on jewelry than in the previous year. The demand for printing paper decreased from \$178,015 to \$170,695. It required \$32,000 worth of blacking, as compared with \$18,000 in 1906, but there was a lesser demand for musical instruments—\$128,000 having been spent, as against \$210,000 the previous year. Phonographs and accessories were sold to the value of \$16,000, in comparison with \$13,000 the year before; \$327,000 was spent on bicycles, as against \$400,000 the previous year, but motor cars represented \$332,935, a decrease of about \$15,000.

The cause for the great fluctuation in trade is due principally to the severe industrial depression which continues over all of British South Africa. It is a strange state of affairs which appears unexplainable; the country is producing more valuable minerals, such as gold and diamonds, than before, yet there are more instances of extreme poverty than was ever known in the history of the country, even though it has passed through several such crucial tests in the past twenty-five years. One fact, however, is apparent; the numbers of white people are gradually decreasing and their spending power has been growing less.

SALES OF AMERICAN GOODS.

For the first nine months of 1907 American trade with British South Africa amounted to \$7,754,535, or 7.8 per cent of the total imports, in comparison with \$10,838,770, or 9.8 per cent of the aggregate imports for 1906, a falling off of 2 per cent. During the same

period, out of a total of \$99,101,510 paid for over-sea merchandise the British Empire secured about \$71,000,000 of the trade, equal to 71.2 per cent, in comparison with \$79,000,000, or 68.9 per cent for the previous year.

Germany nearly held its own, enjoying 7.5 per cent of the trade in 1907, as compared with 7.6 per cent in 1906, there being but little difference for the past year in its total business with British South Africa, as compared with that of the United States.

The Argentine Republic sustained a loss of \$380,000 and dropped from 3.4 to 2.1 per cent, this loss being due mainly to the partial elimination of cattle disease throughout South Africa, so that fresh meat is again being used instead of the frozen product.

Although the United States suffered equally with other countries it still has a firm hold upon many articles of consumption and general use, as the following import figures for the first nine months of 1907 will show:

	Per cent.	Equal to—		Per cent.	Equal to—
Animals, living.....	13.6	\$56,100	Hardware, all other.....	10.4	\$35,000
Brush ware.....	13.1	36,000	Agricultural implements..	47.8	450,000
Clocks and watches.....	27	28,000	Lamp ware.....	21	25,000
Flour.....	11.1	100,000	Agricultural and water-		
Fats and dripping.....	36.6	9,000	boring machinery.....	44.6	420,000
Fruit, dried.....	34	45,000	Mining machinery.....	16.8	450,000
Fruits, bottled and tinned	33.6	40,000	Engine and machine oils..	74.3	230,000
Lard.....	34.8	170,000	Soap.....	20.7	26,000
Meats, tinned.....	55.4	175,000	Carts and carriages.....	62.2	75,000
Oil, salad.....	35.8	26,000	Wax, paraffin, and stear-		
Vegetables, preserved.....	13.4	15,000	ine.....	68.4	560,000
Fencing wire.....	51.7	320,000	Wood, unmanufactured..	29	350,000
Tools.....	42.4	70,000	Wood, plain and grooved..	25.2	140,000

Though there had been a continual falling off of American imports for the greater part of the year, the month of August showed a remarkable change, the value of American merchandise amounting to \$1,168,775, as compared with \$936,905 in the similar month of 1906.

AMERICAN CANNED GOODS' POPULARITY—OTHER ITEMS.

Canned beef, which for some time had been little sold, showed a phenomenal increase of 300 per cent, and it is apparent that American tinned meat will be hereafter accepted as the prime article. There was a falling off in American flour imports from \$42,000 in 1906 to \$17,000, due mainly to the Australian millers being able to place their products upon the market at a cheaper price.

Agricultural implements imported from the United States increased from \$39,000 in 1906 to \$80,000; builders' hardware, from \$22,000 to \$36,000, and electrical machinery, from \$6,000 to \$11,000. Pipes and fittings went up from \$2,200 to \$17,000. Canned meats rose from \$2,300 to \$6,000; typewriters, from \$3,700 to \$7,200, and wire, from \$25,500 to \$47,000. In mineral oil there was a drop in the demand to the value of \$47,000, but in lubricating oil there was an increase of about \$30,000; furniture sustained a loss of \$4,000, while timber gained \$20,000; clocks and watches rose from \$3,500 to \$5,300; tobacco, which was sold to the amount of about \$75,000 in August of 1906, dropped to \$62,500, but in unenumerated articles there was a gain of \$125,000.

FRENCH IVORY COAST.

FOREIGN TRADE STATISTICS OF AFRICAN COLONY.

A report from Consular Clerk Milton B. Kirk, of Paris, states that the commercial movement of the French colony of the Ivory Coast for the year 1906 reached the total sum of \$4,107,378, a loss of \$48,122 under the year 1905, the details being at follows:

The imports were \$2,252,651, a loss of \$429,149 compared with the year 1905. France supplied 30.4 per cent, or \$657,122 worth of the imports; United Kingdom and colonies, \$1,118,017; Germany, \$211,901, and the United States, \$77,072, the principal importations from the latter being as follows:

Articles.	Value.	Articles.	Value.
Canned goods.....	\$8,743	Cotton textile.....	\$340
Flour.....	1,219	Linen, alpaca, and hair textiles.....	598
Rice.....	1,025	Chairs.....	437
Tobacco in leaf.....	44,757	Wood pieces for carpentering.....	1,889
Wood for construction.....	1,732	All others.....	780
Alcohol.....	8,423		
Coal.....	2,579	Total.....	77,072
Mineral oil.....	5,030		

The exports of the Ivory Coast in 1906 aggregated \$1,854,727, an increase of \$381,027 over the preceding year. The principal article was vegetable oils, which are sent mostly to England and France.

INDUSTRIES AND LABOR.

LABOR AND WAGES.

BRITISH INDIA.

COMPENSATION OF RAILWAY EMPLOYEES—SERVICE PERIOD GRADATIONS.

Consul-General William H. Michael, reporting from Calcutta, says that the remuneration of train men in India compares very favorably with that in England, according to a statement made by one of that avocation who has served in both countries, to which he adds:

The East Indian Railway, standard gage and probably the most important line in India at this time, is taken to illustrate the service and compensation of train men in India. It is generally understood that the employees on this line get more money than on any other broad-gage line in the country.

On the East Indian Railway, the untrained would-be railway man is engaged for the locomotive running department as a fireman at \$20 a month, if he is a European, or \$16.66 if he is a native. In either case, at the end of some six months' service he receives an increment of \$3.33 per month, if his service and conduct have proved satisfactory. Overtime for actual work performed brings the whole to about \$33.30 per month. After a period of from four to five years' firing he becomes an assistant shunter at \$30, and twelve months or so later a full shunter on \$33.35 or \$30, as the case may be, plus overtime. Another year, or little more, sees him an engineer beginning on \$40 per month, plus overtime, which brings him in a total amount of some \$66.65.

The following table is illustrative of the salaries drawn by European and Indian engineers on the East Indian Railway at different periods of their service, up to the maximum obtainable:

Year.	Grade.	Salary.	Approximate overtime (mileage or otherwise) allowance.	Approximate total.
First.....	Second class freight.....	\$40	\$26 1/2	\$66 1/2
Second.....	do.....	46	30	76
Third.....	do.....	53	33	86
Fourth.....	do.....	56	38	94
Fifth.....	First class freight.....	60	43	103
Sixth.....	do.....	63	45	108
Seventh.....	do.....	66	53	119
Eighth *.....	Passenger.....	70	58	128
	Passenger or mail.....	73	63	136
	Mail.....	80	70	150

* Promotion from this stage, except in the case of covenanted drivers, is by selection and not automatically by length of service.

WORKSHOP WAGE SCALE.

In the workshop department of India the employees are at first employed on probation, and are paid at a daily rate according to their

qualifications. On being confirmed in the service at the end of the probationary period, the employee is placed on a monthly rate of pay as per the following schedule, which, however, does not apply to an experienced mechanic, who is not started on the lowest pay:

Year.	Substan- tive pay.	In charge of single pit.	In charge of double pit.
First.....	\$26.66	\$33.00	-----
Second.....	30.00	36.00	-----
Third.....	33.33	40.00	-----
Fourth.....	40.00	46.66	\$53.33
Fifth.....	46.66	53.33	60.00
Sixth.....	50.00	56.66	63.33
Seventh.....	53.33	56.66	63.33
Eighth.....	56.66	56.66	63.33
Ninth.....	60.00	60.00	66.66
Tenth.....	63.33	63.33	70.00
Eleventh.....	66.66	66.66	73.33
Twelfth.....	70.00	70.00	76.66

Eight hours constitute a day's work, and, in addition to the maximum salaries in each grade given, overtime can be earned. This is reckoned at time and a half for any time worked in excess of the ordinary working hours, except on holidays, when one-eighth day per hour for the ordinary working hours, and time and a half for any period in excess of these is given. Thus, if a man works eight hours upon a gazetted holiday he receives two days' pay, and if he works a further four hours, or twelve hours in all, he receives another day's pay, or three days altogether.

Covenanted mechanics usually come out upon \$60 plus charge allowance and overtime, rising to \$70 plus the same. Meter-gage lines pay generally less in some cases than standard-gage lines, notably the Assam-Bengal and the Bengal and Northwestern railways; the wage is considerably less to the few European and East Indian drivers, firemen, and mechanics that they employ. Still, with almost every class, the scale is higher than in England.

SPAIN.

REGULATION FOR EMPLOYMENT OF WOMEN AND CHILDREN.

Consul-General Benjamin H. Ridgely, at Barcelona, sends the following account of a new Spanish law restricting the employment of women and children in that country:

The law in Spain, which already fixed the maximum working hours for children between the ages of 10 and 14 years, limiting them to six hours in mills and other industrial establishments, and to eight hours in shops and offices, and which further prohibited them from being employed on night work, has until now made no regulations against the employment under any circumstances whatever of women and children in certain harmful branches of industry.

A Government decree has, however, now been published specifying those trades and processes of manufacture in which the labor of women under 25 years of age, and of children of both sexes under the age of 16 is to be prohibited, owing to the danger from poisonous fumes or dust, risk of fire or explosion, and injury to health.

Children under 16 years of age are also debarred from working any machines by means of pedals, such as sewing machines and others, or

machines which are put in motion by a handwheel; neither are they to be employed in operating hand or circular saws, mechanical planes, chisels, drills, or other cutting machines unless an apparatus be attached to them which will effectually prevent the possibility of accidents.

Boys under 16 years of age are not to be allowed to lift or carry weights exceeding 22 pounds, nor to push or draw loads necessitating a greater effort than that required to propel on level ground the following weights under the conditions stated:

Trucks running on rails:	Pounds.	Carts drays, etc.:	Pounds.
Boys under 14 years-----	400	Boys under 14 years-----	60
Boys between 14 and 16 years---	600	Boys between 14 and 16 years---	100
Girls under 14 years-----	300	Girls under 14 years-----	40
Girls between 14 and 16 years---	500	Girls between 14 and 16 years---	80
Wheelbarrows: Boys between 14 and and 16 years-----	80	Carrier tricycles: Boys between 14 and 16 years-----	150

The weight of the vehicle is included in all the above figures.

ENFORCEMENT WILL GREATLY AFFECT INDUSTRIES.

Quite a large number of industries would be affected by the rigorous enforcement of this law. The labor of women under 25 years of age and of children of both sexes under 16 would be stopped in all chemical works, match factories, type foundries, and glass and lead works, nor would they be employed in painting or decorating toys with arsenic or lead colors, or in sharpening or polishing metals.

They will also be prohibited from being employed in the manufacture of celluloid, ether, cartridges, and explosives of all kinds, petroleum, and all essential oils and varnishes, while slaughterhouses and places where animal refuse is treated are also closed to them. The following are sectional industries in which female and child labor will not be allowed:

Sawing and polishing marble and other stones; cleaning and carding cotton blankets; pulverizing sulphur; producing zinc white by means of combustion and condensation; lime and cement kilns; grinding cork to dust; cutting and polishing horns, shells, and bones; tanneries where much dust is produced; pulverizing all kinds of drugs; enamel works where the raw materials are ground; handling wool, hair, or feathers where dust is produced; carding flax, hemp, jute; porcelain works, mines, quarries, and wherever dry minerals are pulverized; paper mills where the rags are sorted and prepared and in a number of other processes requiring the operatives to work in an atmosphere charged with dust; tobacco factories, in opening the bales, sorting the dry leaf, in the fermentation of the leaf, in the drying process, in inclosed sheds, etc; tin soldering; lacquering metals; dye-works where poisonous materials are used, and in all processes where poisonous fumes or dust are liable to injure the health of the workers.

In the cotton industry the only section, apart from the manufacture of cotton blankets, which comes under the notice of the new act is the "gassing" process. In connection with the foregoing regulations it may be stated that the supply of labor, however, is in excess of the demand.

GERMANY.

NUMBER OF WORKERS AND WAGES PAID IN SAXONY'S TEXTILE INDUSTRY.

Consul Southard P. Warner, of Leipzig, states that the importance of Saxony as a textile center is well shown by interesting figures which have been published by the imperial insurance office, from which he compiles the following:

During the twenty years from 1886 to 1905 the number of insured workmen in the German textile industry increased from 473,700 to 732,500, or 55 per cent. In Saxony the number of textile workers increased from 116,000 to 225,300, or 94 per cent. In 1886 Saxony employed about 24.5 per cent, and in 1905 about 30.7 per cent of all persons engaged in textile manufacturing in Germany. The total wages paid in Germany to textile workers increased from \$62,118,000 in 1886 to \$122,570,000 in 1905. Those in Saxony increased from \$14,756,000 in 1886 to \$36,652,000 in 1905.

The following table gives the number of insured workmen and the wages paid in the textile industry in each of the six districts of the German Empire for the years 1886 and 1905:

Districts.	Persons insured.		Per cent increase.	Wages paid.		Per cent increase.
	1886.	1905.		1886.	1905.	
Saxony.....	116,000	225,300	94	\$14,700,000	\$36,700,000	150
Northern Germany.....	105,000	124,000	18	18,600,000	21,900,000	61
Rhineland-Westphalia.....	92,300	138,600	50	13,600,000	27,100,000	99
Southern Germany.....	64,500	119,200	85	8,300,000	18,300,000	120
Alsace-Lorraine.....	57,500	67,200	17	8,300,000	11,200,000	35
Silesia.....	38,400	58,200	52	3,600,000	7,400,000	106
Total Germany.....	473,700	732,500	55	62,100,000	122,600,000	97

As will be seen from the foregoing statement, Saxony shows the greatest increase in the number of insured workmen and also in the wages paid.

AVERAGE WAGES—BENEFIT OF TEXTILE SCHOOLS.

The average of the yearly wages paid in the German textile industry in 1886 was \$128.44. In 1905 the average was \$163.66, an increase of 27 per cent. The following table shows the average yearly wages paid in the six districts for the years 1886 and 1905:

District.	Average yearly wages.		Per cent increase.	District.	Average yearly wages.		Per cent increase.
	1886.	1905.			1886.	1905.	
Saxony.....	\$127.33	\$162.79	28	Alsace-Lorraine.....	144.94	166.36	15
Northern Germany.....	129.23	176.60	37	Silesia.....	92.82	126.62	36
Rhineland-Westphalia.....	147.08	195.87	33	Total Germany.....	128.44	163.66	27
Southern Germany.....	129.23	153.75	19				

The textile workmen engaged in the so-called "home industry" are not included in these figures.

In 1895, the figures for the occupation census of 1905 not yet having been published, the number of industrial workers in Germany was 10,270,000, Saxony's share being 1,150,000. The number of persons employed in the textile industry of the Empire was 993,000, or 9.7 per cent of all industrial workers. In Saxony the textile workers numbered 267,000, or 23 per cent of all industrial workers. In 1895 27 per cent of all the German textile workers were employed in Saxony. From these figures can be seen what an important part the textile training schools have played during recent years in the development of Saxony as a textile center. In 1906 the total number of factories in Saxony was 23,000. Of these, 5,300, or nearly 25 per cent, were textile establishments.

ITALY.

NEW NATIONAL LAW REQUIRES ONE HOLIDAY EACH WEEK.

Consul D. R. Birch sends from Genoa the following particulars of the new law, popularly known as "riposo settimanale," or weekly day of rest, which went into effect throughout Italy on Sunday, February 8:

The measure, which is a substantial victory for the working classes of Italy, directs that all industrial and commercial concerns throughout the kingdom must grant their employees a weekly rest of not less than twenty-four consecutive hours. No attempt is made to apply the new law to transportation services, either rail or water, to places of amusement, or to any of the public utilities, as it is the intention of the authorities to permit of absolute freedom for the recreation and amusement of the working classes.

The general sense of the new law is that Sunday shall be the rest day, but it is provided that the period of freedom from work may be given in a day other than Sunday in the following cases:

Industries operated by continuous furnace fires, the work of which must not be interrupted; cheese manufactories; restaurants, bars, cafes, coffee houses, billiard rooms, and public business concerns in general; loading and unloading operations in the port and vessel repairs, transportation by land other than by rail; hiring of chairs and carriages; flower businesses, photographic establishments; private hospitals, bathing establishments, pharmacists; undertakers; newspaper offices, information bureaus, theatrical performances, and public amusements; cigars and salt stores, even if there be offered for sale other articles; industries of public necessity.

The weekly rest may also be granted in a day other than Sunday to all persons employed at industries which operate in open air and subject to interruption by bad weather, and to the following trades permission is given to conduct Sunday business between the hours of 7 a. m. and noon: food products dealers; insurance, emigration, employment, advertisement, and loan offices, and others of the kind; and barber shops.

The concerns which are permitted to keep open their places of business during the morning hours of Sunday may, upon application to the Councils of the Commune, be permitted to observe the rest period on a week day and thus remain open all day Sunday. The disposition contained in the preceding paragraph may also apply to all business places of the communes where the people go usually on Sunday in order to do their buying. [An original copy of the new rest law may be seen at the Bureau of Manufactures.]

BRITISH SOUTH AFRICA.

GOVERNMENT REGULATIONS FOR STORE CLOSING IN THE TRANSVAAL.

Consul John H. Snodgrass, of Pretoria, advises that an official notice recently appeared in the Government Gazette making regulations with regard to shop hours in the Transvaal. The consul presents these as follows, with some comments as to their delayed enforcement:

Chemists and druggists must close at 8 p. m. every evening except on Wednesdays, when they close at 1.30, and on Saturdays at 9 p. m. A prescription of a medical practitioner may be compounded by a chemist, or a medical practitioner's requirements supplied at any hour, upon special demand. [No provision appears to be made for chemists to be opened on Sunday.] Butchers, fishmongers, fruiterers, poulterers, tobacconists, and vegetable dealers, 7 p. m. each evening except Wednesday, when they will close at 1 p. m., and on Saturday at 9 p. m. Newspaper vendors, 7 p. m. on Monday, Tuesday, and Friday, 8 p. m. Wednesday, and 10 p. m. Thursday and Saturday. Asiatic tea room or eating house, or Kaffir eating house, at 8 p. m. every night in the week. All other businesses to close not later than 6 o'clock on Monday, Tuesday, Thursday, and Friday, at 1 o'clock on Wednesday, and not later than 9 o'clock on Saturday.

All shops (except those permitted to be open on Sundays) must be closed on public holidays, and those shops allowed to open on Sundays may only open on public holidays during such hours as prescribed by law. Peddlers and hawkers must suspend their labors half an hour after sunset. At Christmas time and New Year, between December 22 and 31, shops may remain open until 9 p. m., except on public holidays or the day following. A person entering a shop just before closing time may remain not more than half an hour for the purpose of being served.

The government has temporarily suspended the carrying out of these laws. The question arose in a discussion between the large stores and the small shops, the former insisting upon the closing hours being kept to the letter, and the latter contending that unless they were allowed to keep open at night they would be compelled to close their doors permanently. For the time being the small shopkeeper is enjoying the fruits of the little trade that is at his disposal during the early evening.

CANADA.

STATISTICS SHOWING INCREASE OF LABOR UNIONS IN PAST FIVE YEARS.

Consul H. D. Van Sant sends from Kingston the following statistics on Canadian labor unions:

Some of the labor organizations of the Dominion are closely allied to those of the United States, and while national or provincial relationships do not enter into this matter, the by-laws and regulations and generally the local organization and purposes are on similar lines, i. e., the elevation and betterment of labor conditions in the Dominion.

According to the figures of the labor department, the total number of labor organizations formed in Canada during 1907 was 232, and of organizations dissolved 58, being a net increase during the year of 174. Compared with the three preceding years, the returns show a marked increase in the activity of the organization. In 1906 the number of organizations formed was 154, and of organizations dissolved, 85, a gain of only 69. In 1905 there was a net loss of two, the unions formed numbering 103, and unions dissolved, 105. There was an increase of 44 in the number of unions during 1904. The year 1902 alone, since records have been kept by the department, was more active than the season just past in regard to the organization of workmen, the number of unions formed in that year being 275 and of unions dissolved 54, a net increase of 221. Of the organizations formed last year, 51 were formed by railway employees, 43 by metal workers, and 41 in the building trade. Ninety-four organizations were formed in Ontario, 51 in Quebec, 28 in Alberta, and 22 in British Columbia.

PEARLING INDUSTRY.

AUSTRALIA.

FORMER HIGH PROFITS—EMPLOYMENT OF DIVERS.

Consul F. W. Goding, in stating that Australia produces the largest share of the world's supply of mother-of-pearl, and that for quality and luster it is unsurpassed, makes the following report from Newcastle on this industry:

The most important centers of the industry are Thursday Island, Port Darwin, and Broome. In 1901 and 1902 the average price of shell was \$2,000 per ton on the London market. As the amount secured averaged 4 tons per boat per annum, and the expenses were comparatively small, large profits were realized. Naturally competition among the pearlers for first-class divers is keen, with a result that wages and bonuses are good. The divers and crews working the pearling luggers are introduced under agreement with the federal government. They are imported for a period of three years, and, on reaching port, are immediately signed on the vessel's articles, thus bringing them under the operation of the merchants' shipping act. The master is also compelled to furnish a bond of \$500 for every man employed, as a guaranty that at the end of three years the man will be deported to Singapore, the port from which the divers are recruited. Formerly the pearlers paid the divers \$10 per month, \$100 to \$175 per ton bonus, and, in many instances, from 5 to 15 per cent for the pearls won. Though arriving as raw coolies, some of these Asiatics earned from \$1,000 to \$2,000 per annum, with keep.

From \$2,000 per ton in 1901 shell has gradually decreased in value, until at the last November sales held in London it had fallen to \$600 per ton. The divers, most of whom are Japanese, are well organized, having their clubs and benefit societies, and every Japanese, whether belonging to the crew, tender, or diving staff, is compelled by his countrymen to join. Everything pertaining to the welfare of the members is thoroughly discussed at the meetings, and they usually succeed in whatever demands they make. In the past their demands, whether deemed reasonable or otherwise, have always been granted by the disunited pearlers, but now these are determined to lower the cost of production, which movement has caused a strike.

One of the results of the union has been the success which has attended the "dummying" of boats. The divers soon save enough to purchase their own boats, with others working them ostensibly as owners, who secure the fishing license and transact the business connected with the work on a commission. The act which stipulates that no Asiatic shall hold a license can thus be evaded. The Japanese dominate the situation, for without their aid as divers pearl getting would cease.

MEXICO.

SUCCESSFUL CULTIVATION OF PEARLS CARRIED ON IN LOWER CALIFORNIA.

Consul W. D. Shaughnessy, of Aguascalientes, transmits an article from the Mexican Herald, of February 16, 1908, wherein it is claimed that the honor of being first to discover and put into successful operation the secret of cultivating pearls belongs to a Mexican company. The following paragraphs are taken from this article:

Under the old system the pearl industry was an uncertain one. Bushels of shells might yield but a few gems or possibly none at all. But this company, which is working under a concession from the Mexican Government, has taken up the cultivation of pearls as a practical industry, and is now operating the largest pearl farm in the world, employing in the harvesting season more than 1,000 people. They are operating in the Gulf of Lower California. The present markets for the company's products are Paris, London, and Berlin, and Hamburg and Bremen for the mother of pearl, which is exported in large quantities.

Two years are required for the growth of an ordinary shell, which forms slowly in layers, like an onion. After two years the shell loses its gem, and, unless opened at the proper time, there is nothing of value within. Mr. Vives, who spent twenty-five years in studying and experimenting, discovered this fact, and thereupon he devised the system whereby the shells are cultivated until the proper time and then opened.

In the first place, the shells are gathered in the season when the eggs are being deposited. These eggs are carefully placed in little artificial channels like the natural bottom of the sea, care being taken in these channels to protect the little "animals" from their natural enemies. At the proper stage they are transplanted into deeper water, where larger boxes continue to protect them. The stock is also inspected and the "dead" ones removed and replaced by "live" shells. In the deeper channels the shells are left to develop, and at the end of two years the harvest is ready. In the deep-water cages, where the pearls develop, the divers can descend without risk.

Three distinct kinds of pearls are produced in the California Gulf, the most valuable, black pearls, ranging close to \$300 per carat gold. The next in point of value are the white pearls, about \$250 a carat, the price varying with the size and perfection of the gem. The yellowish pearl, although ranking third in value, is, as a rule, first in favor among the feminine admirers because of the brilliancy of the gems. These prices are for the rarest and most perfect pearls.

BOHEMIAN HOME WORK.

EXTENSIVE COTTAGE INDUSTRIES IN THE CARLSBAD DISTRICT.

Consul John Steel Twells, in the following report from Carlsbad, minutely describes the cottage industrial life in that part of Austria, so many of the products of which are sold in the United States:

In the manufacturing districts of Bohemia goods for both home supply and exportation are not only produced in factories, but to a great extent the raw material is given to men, women, and children and taken home, where all members of the family engage in the work of producing various articles which are sold to the home trade or exported to the foreign countries.

This method is known in Austria as "Hausindustrie," or home work, and in all parts of the country where textiles, glass, lace goods, gloves, etc., are made, men, women, and children obtain their simple living by this means, and consequently it is of great importance to thousands of poor people living in the small villages adjacent to factory centers, enabling them to make a living, especially during the long dreary months of winter, when no other occupation is possible. Around perhaps the only table in the only room, in a little house, the family assemble, the man, his wife, the grandparents, and children with other members of the family, if there be any. When evening comes on, an oil lamp, a candle, or even chips of wood are the only lights by which they can work. On Thursdays, Fridays, and Saturdays the finished articles are taken to the factories and paid for.

"It is very hard now," said one of the lace exporters from Neudek the other day, "to get people in summer to make laces. They prefer to go to work in fields or picking hops, for which they get higher wages than by making laces. Children get 8 cents a day at that time

and adults from 25 cents to even 40 cents, and of course we can not afford to pay such high wages for lace making."

GOVERNMENT INTEREST IN IMPROVEMENT.

The Austrian Government, desirous of improving this sad condition of laborers, is at present preparing a new law which has been handed to the chambers of commerce for their consideration and judgment. The following gives the numbers of persons in Bohemia who do home work:

Aussig-----	667	Leipa (cloth, linen)-----	3,916
Braunau (linen)-----	4,786	Leitmeritz -----	210
Dauba-----	54	Reichenberg -----	2,256
Deutsch Gabel (weavers)-----	4,695	Rumburg (weavers) -----	7,819
Friedland-----	498	Senftenberg (textile, linen)---	10,054
Gablonz (glass beads and		Teplitz -----	1,378
cheap jewelry)-----	9,147	Tetschen (buttons, linen) ----	3,068
Hohenelbe (textile)-----	2,514	Trautenau (linen)-----	4,936
Koeniggratz-----	1,182		

In the district of the Chamber of Commerce, in which parts of the consular districts of Reichenberg, Carlsbad, and Prague are situated, 105,897 persons do such home work as has been described. They constitute more than one-fourth of the entire population of that commercial district. In the Reichenberg section 68,649 persons are engaged in home work, i. e., outside the factories. They make mostly textile goods, but also embroidered, knitted, worsted, and crocheted goods, which are more or less dependent upon the textile trade.

Next comes glass, stone, earthen ware and clay goods, in which 16,596 are engaged; three-fourths of these workers belong to the glass trade, which is one of the oldest home industries of Bohemia; 8,168 persons make stays, gloves, head covers (caps, hats), and 8,168 do cleaning work at home; 6,427 make wooden, matted, turned, and carved goods; and 3,320 metal goods, chiefly metal turners. In the Erzgebirge, which belongs to the consular district of Carlsbad, 6,000 persons are engaged outside the factories with straw and bast plating. The raw material—simple wheat straw—comes from the hop district of Saaz, while bast or wooden chips are made from Russian ebony wood.

NUMEROUS ARTICLES OF PRODUCTION.

In the district of Senftenberg are located the basket makers and the reed twisters. Mats, pockets, and slippers are made of reed, rush, etc., which are likewise used for building purposes, especially for reed mats, and articles for smokers (cigarette and cigar holders, etc.). In northern Bohemia and also in some southern parts of Bohemia, as in the districts of Muenchengraetz, Neupaka, and Senftenberg, are the shoemakers' villages and towns, mostly inhabited by workers who make parts of shoes at home for the wholesale makers.

Their goods are called "market goods," because they are exhibited and sold on stands at the fairs in the larger manufacturing districts which are held every week or month, or several times in the year, especially in the districts of Bohmisch-Kamnitz, and at Bensen, Tetschen, and Schluckenau. Wooden slippers are made in the district of Rumburg; braces at Teplitz; gloves at Bilin, Kaaden, and at Prague, also at Joachimstal and Abertham. At Schoenau and Hainspach (district of Schluckenau) the ribbon weavers are located, and in a southwestern direction from Rumburg are the wood weavers or

makers of Sparterie goods, while at Rumburg and Bohmisch-Kamnitz are the smoking-pipe makers.

In many of the forest villages barrels are made, which trade is largely encouraged by the chemical factories at Aussig, that employ several thousand workmen. In the southwestern districts of the Boehmerwald are many hundred makers of chip boxes; they make also agricultural and kitchen goods of wood, frames for brushes, toothpicks, and wood carved goods. Altogether about 3,000 makers of wooden goods are scattered in the various villages of southern and northern Bohemia.

CONFORMING TO CHANGING DEMANDS.

Other kinds of home work depend upon the factories near the villages. In the Riesengebirge paper bags and horn or stone buttons are made; near Reichenau and Gablonz snuffboxes were formerly made, but when the use of snuff decreased a new trade began, viz, the making of cheap oil paintings on wood, tin, and linen. This developed from the little paintings which were formerly made on the snuffboxes; the paintings were enlarged and the new industry of making oil paintings was started. The emigration to the United States from Bohemia is partly connected with this kind of work. If the market is good, then all the family works day and night and makes a living, but if the market is bad, they lose their employment and lead a very poor life. The wages are extremely low. In the Adlerhills weekly wages of \$1 to \$1.20 are paid, but as there are many weeks during the year when no work can be had the average weekly earnings are not larger than 80 cents. In good times husband and wife work alternately eighteen hours a day. If the scanty habitations, the rough climate, and the poor soil are taken into consideration, some idea can be gained of how great is the poverty in these mountain villages. Yet it is considered of great value that chip-box making has been introduced, because the workers, mostly women and children, earn 80 cents to \$1.40 per week; and linen-shirt buttons are now made, by which wages of 60 cents to 80 cents a week are earned. Weavers who make at home silk and Jacquard and art work earn \$1.40 to \$4 a week. The straw and bast matters earn from 20 to 40 cents a day, but after the "season" the wages are lowered. Wood carvers earn \$1.20 to \$2.80 a week, and the brush makers at Gabel from \$1.60 to \$2 a week. The wood carvers at the Wittigtal earn \$1.60 to \$3.60 a week, and the wood and mat makers at Niemes from \$1.20 to \$1.60 a week.

INCREASING INCOME—ADJUSTMENT OF INDUSTRIAL RELATIONS.

In this consular district home work is often done to increase the income. People go to work during daytime and in the evening they spend their time by making certain goods. The artificial-flower makers earn \$1 to \$2.40 a week. At Prague and Joachimstal, Abergtham, etc., in the consular district of Carlsbad, gloves are made. The manufacturers hand the leather out to contractors called "Nafaktoren," who distribute the work among the people. Hundreds of women are thus employed in this district who earn \$1.20 to \$1.60 a week. There are other female home makers of straps, whip makers, cutters of visors for caps, and umbrella makers.

To many thousands of persons home work gives employment. There are districts in which the population lives entirely from this

kind of work, and although they make a poor living it is a benefit to them. On the other hand, it must be admitted that home work strongly competes with the smaller manufacturing trades. In Vienna, for instance, there are 100,000 to 120,000 home workers making shoes for factories. There are three classes, viz: (1) Masters who work with assistants; (2) journeymen who work for weekly wages and take on assistant hands, the latter getting food and lodging and very small wages, and (3) "Pfuschers" who work without assistants.

The difficulty with which the Austrian Government has to cope is that the small trades people have great difficulty to compete with home work. Many thousands of both classes make an honest living, but one class is pressing the other, and now the Austrian Government is studying a problem to regulate home work in such a way that it will no longer affect the small manufacturing trades.

CHINESE INDUSTRIAL ENTERPRISES.

GROWING INTEREST IN ESTABLISHING MANUFACTURING PLANTS.

Consul Wilbur T. Gracey, of Tsingtau, China, transmits the following translation from a German newspaper published in that Chinese port:

For years Yuan Shihkai has felt that one of the best ways to raise the industrial welfare of the people of North China was to start industrial enterprises, and in pursuance of this idea he has been earnestly at work carrying out his plans. Up to the present it can hardly be said that his plans have been attended with great success, but the start has been made and with wise regulations in the future the start made will bear good fruit. It must be remembered that private enterprise throughout the Empire has to contend with much opposition.

The main schemes developed at Tientsin thus far include woolen mills, dye works, tannery, furniture factory, soap works, machine shop, cigarette factory, match factory, and an armory.

The largest single enterprise is the "Chih jan kung tsze" (weaving and dyeing company), which works with a capital of \$50,000 divided into shares of \$5. All shares are Chinese owned, relatives of Yuan holding \$10,000 worth. In the weaving department 150 Chinese are employed at 100 Japanese looms, directed by 3 Japanese foremen. The looms cost \$15 each. In connection with the works is a small factory where all sorts of leather and wool articles are made. All goods are well made and sell for a low price, owing to the cheap labor. The dyeing department employs 100 people and is an extensive place, having large rooms and yards for drying cloth which has been dyed. Synthetic indigo is used exclusively.

TANNING, WEAVING, SOAP, AND TOBACCO WORKS.

The Hsiao Pi Chang is a large tannery, working with a capital of \$80,000 divided into \$40 shares, all held by Chinese, the largest shareholder and leader of the enterprise being a former compradore of the Hongkong Bank, Wu Jimpa. The goat and beef hides, coming exclusively from Shantung, are worked by some 100 employees. Machinery is British, but the leather produced has lost greatly in quality, as the Englishmen who installed the plant are no longer connected with it. The company is at present adding a small weaving plant to its present works, 20 English looms having been recently installed. Many smaller industries have also been started and all sorts of leather and cloth goods are being made cheaply, but serviceable.

The "Tschiao I Pin Tsao So" is an attempt to make all sorts of educational apparatus and thus become independent of foreigners in this line of goods. Here such goods as machine models, electrical models, anatomical figures, stereometric figures, drawing boards, and T-squares are made, all of which answer their purpose well.

The "Tsai I Kung Tsze" is a soap factory started by a rich merchant, Sung. The products are well liked and find a ready sale. Machinery is Japanese. Employees number 30 to 40. Another large soap and candle factory with a capital of \$80,000, owned by Chinese exclusively, is now planned.

A cigarette factory, employing mostly native tobacco, is finding a good market for its goods among the natives. Packages of 10 cigarettes with mouthpiece sell for 1 to 1½ cents. Foreigners, of course, can not smoke these cigarettes, which have a bad taste.

ENTERPRISES AT PEKING—TIENTSIN INDUSTRIAL SCHOOL.

In Peking there are also a number of new enterprises started and planned. These include a glass factory which two Germans put into operation some time ago, a large paper factory planned by the Chinese Government to be run in conjunction with their printing plant, a newly organized company which will enlarge and modernize a small cotton mill, and the opening of a modern flouring mill, for which official permission has lately been obtained.

Then there are a number of ancient industries which seem to be reviving about the capital, chief among which are the establishments for weaving carpets out of camel's hair and the cloisonné factories. Near Tongshan, where the coal beds furnish cheap fuel, great brick and pottery kilns have recently been opened. Another rapidly extending industry is found in the whisky stills in and about the great millet regions of the north.

In order to educate the young people of the country a number of so-called industrial schools have been opened in Tientsin during the last few years, where for a small fee students are given a manual training. The leading one of these schools at present is the "Shih hsi kung chang," which is under the direction of Kung I-chü, the head of the trade and industrial bureau of Chili. The head master of this school is the former salt taotai of Tientsin, a son of the former Governor Chou-fu. The school is a sort of stock company, with shares as low as 50 cents so that all people may be interested, but there is also an annual provincial subvention of \$8,000. Training is given in dyeing, weaving, soap making, art carpentry, pottery, silk embroidery, match making, and porcelain painting. All machinery used in education is of Japanese origin. There are at the present time some 200 scholars, ranging in age from 12 to 22. The course of study extends over three years, but if the scholars desire and are willing to continue to pay fees they can remain longer and receive additional training. A class for girls, in which silk embroidery is taught, is a recent addition. Forty teachers and assistants compose the faculty. All goods made are sold in a store belonging to the school, which is located in the native city.

OTHER TRAINING SCHOOLS.

There are, furthermore, two small schools in Tientsin maintained by private persons. Of these the "Chü pu nü kung chang" teaches about 50 girls, while from 20 to 30 boys receive training at the "Chi pu kung chang," both schools teaching weaving exclusively, for which they use Japanese looms. The latter of these two organizations was started by an influential paper about a year ago. It was hoped to raise \$25,000 by popular subscription and found a great school, but as only a few thousand dollars were subscribed, the present small school was all that could be started.

In this connection a penal institute, started some years ago by Yuan Shih-kai in Tientsin deserves attention. Here some 600 petty criminals and 300 vagabonds are at all times undergoing training, while the place is to be enlarged at once so as to also accommodate 200 women. All of the inmates are kept at work, earning an income for the province and at the same time learning something useful themselves. Completed goods are sold at special stores in the native city. Japanese looms and occidental sewing machines are in use, the occupations including weaving, dyeing, paper making, carpentry, carpet weaving, Chinese clothes making, native and foreign shoemaking, and match manufacturing. A similar but far smaller school is located at Pao ting fu, and another is planned for northern Chili. The Tientsin place is called Hsi i so.

IRON WORKS—INDUSTRIAL INDEPENDENCE.

Attention may also be called to the Peiyang Iron Works, employing 210 men. These works were formerly under a Japanese, but an American has recently been substituted. All foremen, however, are natives, while all the machinery is British. The output includes chiefly simple machinery and castings, such as

pumps, printing presses, grist mills, and, of late, sabers for soldiers and police. Most of the iron used is from Hupeh province, but some comes from England, where all of the machinery also originated. The works can also undertake extensive repairs on machinery, for example, such as is used in the mints.

Recently the Government at Peking has also devoted much attention to this matter of making the Empire industrially independent, and an edict was recently sent to all provinces instructing the officials to lend all possible aid to undertakings tending to better the industrial conditions of the land. The ministry of war has recently memorialized the throne, advocating the establishment of a factory for the manufacture of all leather and cloth goods needed by the army. The proposed capital of \$800,000 should be put up half by the Government and half by private persons. Thus it can be seen that at least a part of the officials and the rich merchants are really desirous of putting the country on a sounder economic basis and making it as independent as possible of foreign manufactures.

GERMAN MACHINERY BUILDING.

GREAT ADVANCE IN THE MANUFACTURE OF FARM IMPLEMENTS CLAIMED.

In furnishing the following information relative to the manufacture of machinery in Germany, and its steady advance in quality, Consul H. W. Harris, of Nuremberg, reports that, alert as the producers are to enter the foreign field, they first of all are seeking to supply the home market:

For many years American sewing machines, typewriters, office furniture, shoes, agricultural implements, etc., met practically no competition in the German market. Their excellence was everywhere recognized, and they had a valuable field practically to themselves. The German manufacturer recognized a demand which he was not in position to supply, and with but little protest he saw it supplied from abroad. As the home product in these and in other similar lines has improved, the manufacturer has not been slow to assert its excellence, and the German public is not infrequently notified that it is no longer necessary to buy American sewing machines, American shoes, American agricultural implements, etc.

AMERICAN AND GERMAN FARM IMPLEMENTS.

A recent writer, in a leading German trade journal devoted to agricultural machinery, in a well-considered article takes exception to indiscriminate appeals to patriotism as against the admission of American farm implements. He suggests that the proper way to meet American competition in this branch of manufacture is by perfecting the home product and by a better selling organization. He reviews the causes which have tended to secure the high degree of excellence in American agricultural machinery, and concedes that the American mower and reaper still have a substantial foothold in Germany. He takes the view, however, that German mowers and reapers have steadily improved, so that with a more effective selling organization they should secure the German trade. He places much emphasis on high-grade machinery and selling methods as the proper means to this end rather than what he calls an overzealous patriotism.

Statistics are quoted by the writer in question to show that in most branches of farm-implement manufacture the German factory is now controlling the home market. Thus he shows that during the first eleven months of 1907 in several classes of such implements imports were small, while exports of the same classes of merchandise were important.

The weights, in metric tons of 2,205 pounds, and values of these imports and exports for the period named are stated as follows, values being figured from the weights and only approximately correct:

Articles.	Exports.		Imports.		Imports from the—	
	Quan- tity.	Value.	Quan- tity.	Value.	United States.*	United King- dom.
	Tons.		Tons.		Tons.	Tons.
Flows, iron.....	16,074	\$1,722,000	101	\$14,400	51	-----
Flows, for power.....	609	119,000	927	187,500	-----	927
Oultivators, harrows, hand and horse rakes, potato diggers, etc.....	2,893	372,000	1,043	149,000	625	-----
Portable steam engines.....	2,187	601,000	952	249,000	-----	909
Thrashers.....	5,414	799,000	2,234	842,000	89	1,945
Oream separators.....	1,063	759,000	652	521,000	-----	-----
Total.....	28,240	4,372,000	5,909	1,462,900	765	3,781

* According to official returns, the exports of agricultural implements from the United States to Germany during the calendar years 1905, 1906, and 1907 were valued at \$1,474,145, \$1,864,699, and \$2,598,047, respectively, a large and steady increase.

GENERAL CONCLUSIONS.

No one can have followed agricultural machine manufacture in Germany for the past ten years and doubt that improvement has been steady and substantial, and that the German manufacturer proposes, as early as possible, to supply the home trade in all its branches and to have his share in the trade of other countries. From now on it will be more and more a question of good materials in the machine, of favorable selling terms, of prompt deliveries to agents and farmers, of liberal advertising, and of such improvements in the machine from time to time as may be required. The conditions which existed six or eight years ago have materially changed, and it behooves the manufacturers of the United States to keep abreast with conditions as they now are.

MATCH MANUFACTURE.

BRITISH INDIA.

DESCRIPTION OF A NEW INDUSTRY STARTED IN A SMALL WAY.

In a previous report Consul-General William H. Michael, of Calcutta, called attention to the opening in India for an up-to-date match factory, which leads him to describe attempts in that direction, as follows:

The Indian Trade Journal recently contained an article on the subject embodying an interview with an officer of the Indian civil service, who says that he recently visited a match factory in Sholapur, India, and was very much interested in the embryo establishment he found there. He said the work was wholly done by hand, yet the product was very satisfactory, and the small plant is paying well. It is only a question of increased capital and more modern machinery when the factory will be paying large profits. The factory employs 16 hands, all natives, and the material used is "surya grass" (*Xylia dolabriformis*), which grows abundantly in parts of India. The process is thus described:

A chaff cutter set at 2 inches cuts the stalks to the required shape, which are then winnowed to get rid of grass, etc. These are then passed through two

horizontal sieves, which retain only those stems that are of the correct thickness. These are then boiled in paraffin for five minutes and dried in a revolving drum. Some 24 pounds of Burma paraffin go to 7,000 boxes of matches. They are then shaken through a horizontal sifter, which deposits the stems in horizontal layers. These layers are then put into a screw frame, and the stems are now in a horizontal position, held tight by a screw, and are then ready for dipping. By an ingenious arrangement some of the closely packed stems are forced forward, so as to stand out from the mass (otherwise when dipped the compact mass would stick together) and are dipped in a solution of chlorate of potash, sulphate of arsenic, potash bichloride, powdered gypsum, and gum arabic. About 6 pounds of the mixture go to 7,000 boxes of 80 matches each. The ingredients are cheap. Chlorate of potash costs 8 cents per pound, sulphate of arsenic 16 cents per pound, and potash bichlorate 12 cents. The dipped matches are put in a drying frame, and the remainder in the screw frame go through a similar process.

The boxes are made of cardboard; the inner portion, which holds the matches, is cut and pressed by hand into a wooden socket, which shapes it after being gummed. A man working ten hours can make 1,000 inners or 3,000 to 4,000 outers. The proprietor is devising a hand machine which will turn out these boxes rapidly. The outers are put in a frame which holds a gross or so and are brushed over with sulphate of arsenic. Filling is done by hand, and the boxes of matches sell at 26 cents per gross. This small factory, as yet in its infancy, yields a profit of \$1.33 per day.

SPAIN.

GOVERNMENT DECLINES TO RENEW PRIVILÈGES TO PRIVATE CORPORATIONS.

Consul-General Benjamin H. Ridgely, reporting from Barcelona under date of February 8, says that one of the greatest and most profitable monopolies in Spain is the match monopoly, concerning which he writes:

Much attention is called to the fact that the concession granted to the *Compañia de Cerillas y Fósforos*, or Match Company, will terminate February 28, 1908, the efforts to arrive at an agreement with the Government for its prolongation having failed.

In the year 1893, the Spanish match manufacturers formed a combine, and succeeded in obtaining from the Government a monopoly for the manufacture and sale of matches in Spain. The following year a number of prominent merchants established what was known as the *Compañia de Cerillas y Fóforos* with a capital of 5,000,000 pesetas (silver peseta=about 17 cents) for the purpose of taking over the working of the monopoly and paying the annual sum agreed upon between the Government and the manufacturers for the exclusive right to sell matches. The investment proved quite profitable. The last published balance sheet of the company showed that the profits during 1906 amounted to 1,265,152 pesetas (about \$215,000). The monopoly controlled the output of 27 factories variously distributed throughout the country; including one at Palma de Mallorca, and handled 432,000,000 boxes of matches annually. It is now understood that the Government will, after February 28, take over the business and operate the monopoly for its own benefit.

Only wax matches are used in Spain, and they are retailed at 5 to 10 centimos (1 and 2 cents) per box, according to size and quality. The cheapest boxes contain 50 very small, thin matches, which retail at 1 cent. The best quality, a larger match in a very pretty cardboard box with a gum-spring lid, containing 50 matches, retails for 2 cents. A third quality in inferior boxes containing 30 matches, retails for 1 cent.

AUSTRIAN IRON PRODUCTION.

LESS ATTENTION TO EXPORT TRADE—EXTENSIVE HOME DEMANDS.

An interesting statement has been published recently by the head of the largest iron and steel plant in Austria concerning the present condition of the iron industry in Austria. The article is summarized by Consul-General W. A. Rublee, of Vienna, as follows:

The fact is emphasized that the Austrian iron industry depends almost wholly on the home market and participates in foreign trade only on rare occasions under particularly favorable conditions and even then only to a moderate extent. The home market has not been stimulated by any particularly great demand in recent years, but showed only the natural expansion due to the gradual growth of the population and to the normal development of modern industrial needs. The growth of the Austrian iron industry is not, therefore, a sudden one as in some other countries, but is on the contrary slow and gradual. It is, consequently, out of the question that a violent reaction should occur, as may be observed in other countries.

The constant development of the Austrian iron industry is illustrated by the business done during the last five years in the more important products of the iron works comprised in the Austrian iron cartel or association. During the five years from 1903 to 1907 the sales of rolled iron were as follows: 1903, 547,030 tons; 1904, 610,720 tons; 1905, 646,580 tons; 1906, 709,940 tons; 1907, 770,660 tons. The sales of pig iron in the same period were: 1903, 173,690 tons; 1904, 208,120 tons; 1905, 219,120 tons; 1906, 246,400 tons; 1907, 285,780 tons. These figures demonstrate the gradual growth of the home market as well as of the iron industry.

The Austrian iron works have met the increased demand of the home market by enlarging their plants and have been able up to the present time to supply the requirements of the market. On the other hand, there is no possibility of an overproduction, not because, as is generally thought, the organization of the cartel regulates the production according to the demand, but because of more fundamental reasons. The particular cause that prevents an overproduction in the iron industry, and even makes it impossible to supply a sudden great demand, is the scarcity of coke, which is essential in the operation of blast furnaces.

OBSTACLES TO GREATER PRODUCTION.

An increase of the Austrian pig-iron production in geometrical progression seems impossible, as the deposits of ore, with the exception of those in Styria, hardly admit of being worked to a greater extent than at present. Even the Alpine Montangesellschaft, the one Austrian company that is in a position to meet the greater iron consumption on account of its ownership of iron mines, is not able to undertake the task because it depends upon the possibility of purchasing the necessary coke in foreign markets. This company is at present meeting the situation by withdrawing from the export business in so far as it becomes necessary to satisfy the home consumption.

This gradual absorption of the export business by the home market is shown by the trade statistics of recent years, as it is to be noticed that in 1907 the export of iron was only about half what it was in 1906. A still further reduction of exports in favor of the home con-

sumption is to be expected in the near future. On the other hand, the import of pig iron shows a continual increase. During 1905 there was an import of 41,690 tons of foundry pig iron, whereas in 1906 this import was 60,390 tons, and for the first eleven months of 1907 it had gone up to 126,610 tons. The home market will in the future, as in the present, have to draw part of its supplies from other countries, inasmuch as even such Austrian blast furnaces as make foundry pig iron are now buyers in foreign markets.

The further expansion of the market in Austria is to be expected on account of considerable extension of the railway systems and the construction of aqueducts in several of the principal cities of the empire.

WATER POWER IN BOHEMIA.

CONSTRUCTION OF MOUNTAIN DAMS FOR THE BENEFIT OF INDUSTRIES.

According to Consul Charles B. Harris, of Reichenberg, great attention has been and is now given in northern Bohemia to the erection of mountain dams, on which he submits the following report:

The manufacturing establishments in this district are mostly located in valleys, along rivers and their tributaries. The water of these streams flows from one waterwork to another, furnishing power for the industries. The water not only is useful, but, unrestrained, would cause great damage in case of flood. For instance, the flood of 1897 was very destructive, causing a damage of \$688,000 in Reichenberg alone. In order to combat these floods a Water Association was formed in 1900, which decided to erect six dams in the region of the river Goerlitz-Neisse near Reichenberg. Five of them have been built at a total cost of \$1,475,698, that at Harzdorf costing \$160,160, Friedrichswald \$326,271, Voigtsbach \$109,668, Muehlscheibe \$209,699, and at Gablonz \$669,900.

These dams not only prevent floods, but supply the different manufacturing establishments with power, and are built in such a manner as to be kept half full, one-half being utilized for the supply of water to operate the factories and the other half to hold back the water in case of a flood.

DIVISION OF COST—OTHER PLANS FOR DAM BUILDING.

Every land or waterwork owner whose plant is located below a dam, or who derives a benefit from the same, must be a member of the association, and the membership contributions are regulated according to the benefit the members derive from the dams, either by protection against damage, use of water, or both. The membership rate varies from \$2.03 to \$1,015 a year. The money needed to pay the cost of constructing the dams named was partly raised by subvention. The Austrian Government contributed 30 per cent, the Crownland of Bohemia the same amount; the governments of Saxony and the province of German Silesia will pay a subvention of about \$166,600, while the balance is to be raised by the membership rates of the association.

The Iser Mountains, near which Reichenberg is located, despite abundant forests, are not capable of holding back heavy rains and

other waters. As a result such industrial centers in this consular district as Albrechtsdorf, Dessendorf, Unter-Polaun, Tannwald, and others, have severely suffered, and are now contemplating the erection of dams, the plans of which are being drawn. It is aimed not only to protect the manufacturing establishments, but also the lands of agriculturists, who have also suffered much from an oversupply of water.

Similar dams in the future will be erected in the Giant Mountains, on the Elbe River, and along its tributaries.

EXPLOSIVES IN SOUTH AFRICA.

A MANUFACTORY FOR THEIR PRODUCTION TO BE ERECTED IN NATAL.

Consul Edwin S. Cunningham, relative to the conclusions of negotiations by the representative of an English company for the erection of a plant near Durban for the manufacture of explosives, furnishes the following information for the benefit of American manufacturers interested in that trade in South Africa:

A tract of land has been secured at Umbogintwini, 14 miles from Durban, on which will be constructed the plant for the manufacture of explosives. It is believed that this will be merely the beginning, and that in time ammunition and possibly other articles which this firm manufactures in England will also be manufactured in Natal. The preparation of the land and the construction of the subordinate buildings begin at once, the factory and arsenals will be begun about May, and it is proposed to have the plant in operation before the end of the year. Contracts are being let by the Natal government railways for the construction of 4 miles of railway to connect the lands with the South Coast Line. Eight acres also have been secured fronting Congella wharf for the use of the company in receiving, storing, and forwarding material for the factory.

It is interesting to note that one of the main factors in deciding the selection of Natal instead of some other port for the site is the port facilities afforded by the Congella wharf, which was constructed at an enormous expense primarily with the object of securing the vast timber trade between the Northern Hemisphere and the interior of Africa, but ultimately to provide, from the large area of reclaimed lands, suitable sites for the erection of factories which, it was believed, would be attracted to this port when the facilities were provided. This is the first firm from Europe which has availed itself of these accommodations. Another factor which had weight in Natal's favor was the abundant supply of good coal to be had. The possibility of coal for South American ports furnishing a cargo for vessels, chartered by the company to bring nitrate here, was further urged as an inducement for selecting the chosen site, since the securing of return freight would cheapen expenses.

The expenditure on account of plant and buildings, it is stated, will be approximately \$1,000,000; and when in operation the factory will give employment to 200 Europeans, and this number will be considerably increased as requirements demand. Within a reasonable time after operations begin the number will be 600 to 700.

CREATING A NEW VASE.

GERMAN HISTORICAL SOCIETY REVIVING AN OLD ROMAN ART.

According to Consul William J. Pike, of Kehl, there is about to appear in the market a new kind of a richly embellished vase to be called "terra sigilate," which is of interest from a historic and artistic point of view, leading him to summarize a description from a German trade journal as follows:

Recently, in the excavation of Roman ruins, a certain beautiful vase, called in Latin "terra sigilatta," was unearthed. This has come to the attention of a historical and archæological society in Metz, Lorraine, which became so interested in the vase that it approached a manufacturing firm with a view of ascertaining whether it would be possible to manufacture an imitation of this unique vase, because the society wished to present each of its members with a copy of one of these old Roman relics. The manufacturer who was interviewed also became very much interested in this piece of art, being himself an antiquary, and offered his services in trying to imitate this skillfully and dexterously worked out creation of art.

The first process was naturally the study of the composition and the method which had been used by the Romans in embellishing the original, which was a more difficult matter than imitating the exact form. Further, to produce the artistic effect a burning process was necessary, which in the first experiments with the material used made the vases so brittle that they were found to be impracticable. Should further experiments, however, overcome this obstacle, the firm will not only manufacture a sufficient number for the members of the society, but place the same upon the market.

Since similar vases, found only in museums, have already created so much attention from the world of art and admirers in general, it is quite certain that it will be one of the best novelties of real worth which has appeared for some time.

CANADIAN APIARIES.

DECLINE SHOWN IN THE INDUSTRY IN ONTARIO PROVINCE.

Consul H. D. Van Sant, of Kingston, states that according to the latest Canadian government returns the number of hives of bees in Ontario has decreased from 216,734 in 1900 to 166,811 in 1907, and the value from \$1,139,559 to \$885,196. Of the 33 samples of honey gathered in the Kingston district for analysis by the inland revenue department all were found genuine. In most of the other districts a percentage was found to be adulterated with sugar, cane sirup, and corn sirup.

FOODS AND DRINKS.

DAIRY PRODUCTS.

MEXICO.

CONSUMPTION OF MILK AND BUTTER IN THE FEDERAL CAPITAL.

Several inquiries having recently reached Consul-General A. L. M. Gottschalk from firms in the United States with regard to the milk supply of Mexico City, he supplies the following information:

Business firms dealing in dairy utensils and supplies should be informed that, generally speaking, there is not at present in Spanish America that demand for their products which might be found in other countries, for two reasons:

First, the comparative scarcity of milch cattle and the great importations of milk in its various condensed and tinned forms, cheeses, tinned butter, etc.

Second, the fact that the dietary list of the average Spanish-American family contains very little milk, cream, or butter, as compared with a family in the United States. Even for cooking purposes cream, milk, and butter are often replaced by lard, stock, olive oil, etc.

In this city, which to-day has an estimated population of some 400,000 persons competent to know, the consumption of dairy products is barely what would supply a town of 80,000 in the United States. The average consumption of the city has been estimated from another source at 63,500 liters (16,775 gallons) per diem, but these figures are probably rather high.

SANITARY INSPECTION OF DAIRY PRODUCTS.

Mexico City, like all large capitals, has a board of health, which regulates the sanitary condition of milk and other dairy products, just as it regulates concerning foodstuffs generally, before they may be sold. The milk supply is chiefly from large farms in the valley of Mexico owned by private individuals, some of whom have taken pains at various times to import blooded stock from the United States, Switzerland, and other places, but generally speaking there are no large herds of milch cows. It is said that there may be from 5,000 to 7,000 milch cows in the District surrounding Mexico City. One of these farms (and not by far the largest), at Xolox, near the city, sends in an average of 1,000 liters (264 gallons) of milk every day. Daily milk trains also come in from Pachuca (Hidalgo) a few hours distant away, bringing in milk, and some cheese and butter. The town of Toluca (State of Mexico) has extensive dairy interests, and manufactures a cream cheese which, like that of Chiapas in southern Mexico, has a national reputation. [The local agents in Mexico City for the sale of Toluca dairy products are listed at the Bureau of Manufactures].

Milk costs here at retail 15 to 18 centavos Mexican currency, (approximately 7½ to 9 cents United States currency) per liter

(liter=1.05 quarts) ; at wholesale, about 11 centavos per liter. Cream costs usually 80 centavos (approximately 40 cents United States currency) per liter, at retail. Butter sells for about 80 centavos per pound. It is rarely sold by the kilo at retail, and imported (American) butter is sold usually at 1 Mexican peso (50 cents United States currency) per pound.

ARGENTINA.

SUPPLY AND CONSUMPTION OF MILK IN BUENOS AIRES.

The following statistics concerning the supply, consumption, and hygienic treatment of milk in Buenos Aires are from the Statistical Annuary of that city for 1906:

While Buenos Aires is the most advanced city of Latin America for the hygienic treatment of milk, when received in the city, the veterinary control at the point of production is entirely lacking for all the companies which provide this vital element to the population. Hygienic precautions and requirements of the companies engaged in the milk trade mark great progress, but, unfortunately, they reach but a minimum part of that which is delivered to the consumers, since in a total consumption of 360,000 liters (95,101 gallons) per day, 210,000 liters (55,476 gallons), are being sold without any guaranty of salubrity.

While Buenos Aires has a very well-organized service for inspecting the hygienic and alimentary conditions of the milk delivered for consumption, that is not enough; the principal inspection and analysis should be made in the country, where the cows exist, from which 93 per cent of the milk consumed in the city is received.

SUPPLY OF MILK IN BUENOS AIRES, BERLIN, NEW YORK, AND PARIS.

The daily consumption of milk in the four cities is as follows:

City.	Popula- tion.	Daily consumption.		Consump- tion per capita.
		Liters.	Gallons.	Grams.
Buenos Aires, 1906.....	1,084,113	360,000	91,900	332
Berlin, 1905.....	1,809,226	750,000	198,197	337
New York, 1906.....	4,014,304	1,237,000	326,827	308
Paris, 1906.....	2,660,559	900,000	237,822	338

Buenos Aires receives 93 per cent of its milk supply from the rural dairies in localities within 62 miles of the city, and the remainder is supplied by dairies within the municipality itself. The quantity received by railway amounts to 336,000 liters (88,761 gallons) per day. This is augmented in the summer, when refrigerated milk, sold at suitable places, is a customary beverage for a considerable part of the population. The companies which supply the milk from the rural districts have refrigerating and frigorific cars, for the transport of the product, placed at their disposal by the railway companies, one of which runs 2 milk trains a day—morning and evening.

Berlin is supplied with milk by sellers who contract for the product of localities or farms, concentrate it at certain points, and transport it by railway; by producers who send it to the city in other vehicles, and, lastly, by a number of small producers who have dairies in the city and suburbs. The annual consumption of milk in Berlin is estimated at from 260,000,000 to 270,000,000 liters (68,684,320 and 71,326,030 gallons).

The milk consumed in Paris is produced in the departments or provinces, and in the city itself; 90 per cent is received from the departments, in special milk trains, which are discharged between midnight and 2 o'clock, thus permitting delivery at 4 o'clock in the morning. The milk is collected, by great companies within a radius of 84 miles. The maximum time consumed in the journey is three hours. The milk region is divided to avoid competition. A store, near some railway station, serves as a central point for a radius of 12 to 18 miles. The milk is collected in the morning and in the evening in carts containing from 1,000 to 1,200 liters (264 to 317 gallons). In Paris the milk is sold in the dairies (every dairy having from 15 to 20 cows) at from 40 to 60

centimes per liter (7.72 to 11.58 cents per 1.057 quarts). The milk brought from the country is retailed at between 25 and 30 centimes (4.8 and 5.7 cents) per liter. That which is distributed in sealed bottles in the Department of the Seine varies between 50 centimes and 1 franc (9.65 and 19.3 cents) per liter.

The milk consumed in New York is supplied by 187,125 cows distributed throughout five States, viz, New York, New Jersey, Pennsylvania, Connecticut, and Massachusetts. The average consumption of milk is 1,237,000 liters (326,779 gallons) per day, without reckoning 21,000 liters (5,550 gallons) of cream and 12,000 liters (3,172 gallons) of condensed milk.

UNITED KINGDOM.

BUTTER TRADE AGAIN NORMAL—MARGARIN A POPULAR SUBSTITUTE.

Reports from some of the consuls noted a remarkable shortage in Great Britain's butter supplies, an increase of 10 cents a pound in the wholesale price, or nearly 50 per cent, compared with a year preceding, and a general belief that the shortage would last a considerable time. Consul Frank W. Mahin, of Nottingham, now supplements these statements with the following, bearing date of March 9:

The retail price of butter was also increased from 30 cents to 36 cents per pound for best quality, with a possibility of a still higher price. To everybody's surprise, the price inflation lasted barely a month. The wholesale price has fallen back in a few days to nearly its former level, while the retail price has dropped from 36 to 32 cents for best, and will probably soon go to the normal figure, 30 cents. The cause of the sudden decline was chiefly, if not altogether, decreased demand. This resulted from the action of retail dealers, who, losing money on butter, induced many customers to substitute margarin by giving a half pound free with each purchase of the shilling (24 cents) grade. Thus, the margarin cost the buyer at the rate of 16 cents a pound. Enormous quantities of margarin have thus been sold here. It is put up attractively, and, it must be admitted, tastes better than some of the butter retailing at twice the price.

Several other important edibles have recently declined in price in this market. Lard and bacon are 2 to 4 cents cheaper than at the beginning of the year. Eggs, absolutely fresh, are 24 cents and some imported eggs 12 cents a dozen—very low prices for this market. The price of flour having declined, bread has been reduced a cent a loaf for best quality. These reductions have sensibly abated the alarm caused by the general rise in prices last year.

The reductions noted are apparently due to increased supplies. There is a tendency, however, toward lower prices in many other articles on account of the present general trade depression.

BUTTER SUBSTITUTES IN GREATER FAVOR.

Supplementing the recent reports on the late butter famine in Great Britain, Consul J. N. McCunn writes as follows from Glasgow:

It is now believed by many farseeing men interested in the subject that margarine will benefit permanently by the recent butter famine, as the prejudice against any kind of butter substitute, which has so generally existed in the public mind, has now been greatly overcome among a class of people who, until recently, had never tested the merits of margarine as a substitute for butter.

AUSTRALIA.**DECLINE IN BUTTER SHIPMENTS TO THE LONDON MARKET LAST YEAR.**

Consul-General John P. Bray makes the report from Melbourne that the butter export trade of the state of Victoria, Australia, for the year 1907, shows a decline of nearly 3,000,000 pounds in oversea shipments as compared with 1906. His statistical details follow:

This decline is due to the unfavorable weather experienced during the latter half of the year. The following is a summary of Victorian butter exports to destinations beyond Australia for each of the past four years:

	1904.	1905.	1906.	1907.
Pounds.....	84,553,550	80,968,120	87,708,663	84,717,940
Value.....	\$6,389,714	\$6,219,640	\$7,962,849	\$7,519,102

The great market for Victorian butter continues to be London, the total shipments to England comparing as follows:

	1904.	1905.	1906.	1907.
Pounds.....	29,242,710	28,207,602	33,215,854	30,002,629
Value.....	\$5,342,443	\$5,201,684	\$6,991,900	\$6,437,436

Shipments to other oversea destinations show a slight increase, being 4,715,311 pounds in 1907, against 4,492,909 pounds in 1906.

FRANCE.**MILK AND BUTTER PRODUCTION OF A NEW BREED OF COWS.**

Consul Dominic I. Murphy, of Bordeaux, furnishes the following information relative to the dairy productivity of the "Bordelaise," a new breed of cattle developed in the French Department of the Gironde:

The milk of the Bordelaise cows holds middle place in quantity between the Holland and Breton varieties, from which the breed has been developed. While giving somewhat less than the former, the milk is of richer quality, having as great a proportion of butter fat as the Breton, sometimes as high as 41 grams per liter (1.057 quarts), analyses showing the average butter fat in the milk of the Bordelaise to be 36.65 grams per liter, the milk of the Holland cows averaging only 32.66 grams. The average milk production of a Bordelaise cow is from 12 to 15 liters (12.7 to 15.8 quarts) per day.

GERMANY.**GOOD RESULTS OF MILK PASTEURIZING EXPERIMENTS.**

Consul Samuel H. Shank, of Mannheim, in a report on the good results attending introduction into Germany by Mr. Nathan Straus, of New York, of the system of pasteurizing milk, says the importance of the work may be realized when it is known that 25 per cent

of the children born in Germany die before they are 1 year old. The consul adds:

The fact that 33 per cent of the cows slaughtered in one German city and 42 per cent of those slaughtered in another had tuberculosis shows the necessity for exercise of great care in the use of cow's milk as food for infants. It is hoped that through demonstrations being made by Mr. Straus, pasteurization of milk may soon become universal.

MEATS AND FISH.

GERMANY.

FRESH-WATER FISH SOLD ONLY WHEN ALIVE—IMPROVED TANK CARS.

Special Agent Capt. Godfrey L. Carden, of the United States Revenue-Cutter Service, sends from Berlin the following information concerning the transportation of live fish in Germany:

Transportation of live fish for market purposes is now an established fact in Germany. Under the Erlwein system which is now being operated on the Prussian State railways the fish are being hauled over considerable distances. I am advised that shipments are being made to Berlin from Lyon in France and from as far south as Roumania. Briefly the new system permits of a proportion of 2 tons of fish to 1 ton of water, and, in instances, as many as 4 tons of fish have been transported alive in 1½ tons of water. This means that the fish have been packed in almost like sardines. Under the Erlwein system oxygen is forced through the fish tank by means of a circulating pump, and the carbonic acid as exhaled in breathing is absorbed by lime plates. Doctor Erlwein, who is responsible for the development of the present system, is one of the principal engineers for the Siemens-Halske electrical establishment of Berlin. The company operating the fish cars is known as the Wilhelm Kaumann nachfolger of Berlin. So far only fresh-water fish are being transported, but I understand that it is the intention to take up the transportation alive of salt-water fish. Before this latter result can be effected it will be necessary to equip many of the seagoing fishery vessels with wells or tanks such as are seen in many of the Boston fishing vessels.

SALE OF LIVE FISH ONLY PERMISSIBLE.

German law does not permit of fresh-water fish being offered for sale except alive. It is common to see in restaurants tanks of fresh-water fish on exhibition in the windows. The law is aimed against the dangers of fish poisoning. It is the opinion here that fresh fish could be transported readily from New York to any one of the large cities in the Mississippi Valley, and, in turn, the fish of the Great Lakes could be transported alive all over the West. I understand that the German company is quite ready to negotiate for American connections to build these fish cars in America.

The sale of fish in Germany is a very important one. It is recognized that the food is not only good and cheap, but offers a ready substitute for meat which, at the high prices now demanded, is placed beyond the reach of many of the poorer people. As originally designed the Erlwein system provided for what is known as a "wet and dry storage." In one instance there was practically no water used. In its present form, however, the tanks only carry enough water to

keep the fish moist. The tanks may be constructed of either wood or metal, and the great value of the method lies in the ability to transport a great number of live fish in a comparatively small space.

FRANCE.

CONSUMPTION OF MEAT AT ROUBAIX—PRICE COMPARISONS.

Consul Chapman Coleman reports that butchers' meats consumed in Roubaix are derived from two sources, for the most part from the local abattoir, the remainder from without the city, chiefly from Lille. The consul's details of the trade follow:

During the past calendar year the Roubaix abattoir furnished 8,592 head of beef cattle, weighing 5,382,045 pounds; 3,924 calves, weighing 561,132 pounds; 8,178 sheep, weighing 395,815 pounds; 10,981 hogs, weighing 1,716,521 pounds, and 1,814 horses, weighing 1,146,995 pounds. The aggregate weight of these meats was 9,202,367 pounds. Adding to the butchers' meats 4,113,599 and 842,565 pounds, respectively, of poultry and game imported into the city, the grand total of meats of all kinds consumed is found to have been 14,138,531 pounds.

The figures for the same articles consumed in the preceding year, 1906, are the following: Butchers' meats from the local abattoir, 8,786,811 pounds; imported butchers' meats, 4,392,383 pounds; imported poultry and game, 836,099 pounds, an aggregate of 14,024,093. A comparison for the year 1907 shows an increase in quantities consumed of all articles except butchers' meats from without, which diminished.

HORSEFLESH POPULARITY—PRICE ADVANCES.

The increase in consumption of meats in 1907, notwithstanding the higher prices, is accounted for by the large increase in the consumption of horseflesh in 1907, although accompanied by some decrease in the use of other butchers' meats.

This large and increasing consumption of horseflesh would appear to be attributable not alone to its comparatively low price, about one-third of that of other butchers' meats, but also and chiefly to the circumstance that repugnance to its use as a food article has been largely overcome and is rapidly disappearing. It is referred to in the local press as the triumph of the horse.

The present retail prices in this city for meats of the various kinds are the following:

Article.	Price per pound.	Article.	Price per pound.
Beef:		Game:	
Steaks.....	\$0.21-\$0.25	Domestic rabbits.....	\$0.16
Sirloin.....	.31	Wild rabbits.....each..	\$0.48-.68
Ribs.....	.21-.28	Hares.....do.....	1.16-1.54
Mutton:		Pheasants.....do.....	.68-1.16
Leg.....	.28	Partridges.....do.....	.53-.77
Breast.....	.17	Wild ducks.....do.....	.68-.96
Cutlets.....each..	.12-.15	Poultry:	
Veal.....	.31	Ducks.....do.....	.53-.68
Pork.....	.25	Chickens.....do.....	.48-.77
Horseflesh.....	.08-.11	Turkeys, dressed.....	.39
		Geese, dressed.....	.39

The following advance of prices in percentages during the past five years, from 1902 to 1907, may be noted: Bread, 15; beef, 22; veal, 14;

mutton, 25; pork, 27; butter, 14; cheese, 25; vegetables, 15 to 30; pastry, 25; oil, 15; coal, 34; charcoal, 24; coffee and chocolate, 25. The greatest increase, 50, is for fish, the smallest, 10, for candles and petroleum.

The prices named may be regarded as applicable, generally, to all cities of this Department of the North and to neighboring regions of France, and embrace a considerable increase in consequence of the octroi duties levied upon admission to the cities on all food and on many other products.

The population of Roubaix, exclusive of the adjoining city of Tourcoing, being 121,115, the yearly consumption of meat per head of the population is found to be about 116 pounds, and the daily about one-third of a pound.

CANADA.

PREPARING AND MARKETING THE NOVA SCOTIAN BONELESS FISH.

Vice-Consul George B. Stephenson, of Yarmouth, furnishes the following information concerning the boneless-fish industry of that district:

While this industry is only a small part of the great fisheries of Nova Scotia, it is of no little importance and interest to the United States, where the greater part of the cured product finds consumption.

The fact that it is possible to work at some stage of the catching or curing the year round is the reason why so many of the ordinary fishermen engage therein. Another advantage they find is the ready returns for their work. A fisherman can get together a small lot of fish put up in this manner, bring it to Yarmouth on Wednesday, ship it to Boston, and have his check for it on Saturday. Not only does this locality prepare fish in this way, but trains and boats from both coasts bring large consignments which are transshipped here each boat day. The ready and quick market in the United States, principally Boston, makes this end of the province produce more than farther north, where transportation facilities are not so good.

The catch, which is all made during the summer months, is rough dressed and put in brine. When the weather becomes such that fishing is no longer possible, the fish are taken out of the brine, thoroughly dressed, cleared of all bones, and put on the drying frames in the sun to dry. If the weather is favorable, it only takes two days to dry the fish; if not, it sometimes takes a week. After drying the fish are returned to the sheds and given a coat of salt. They are then ready to pack. Thirty pounds are generally put in one box.

Two kinds of fish are used, cod and haddock. Formerly everything was sold for cod, though why no one seems to know, as haddock is the better fish of the two.

Few, if any, fail to take out a special invoice for their shipment, these being almost invariably for lots valued at less than \$100. The reason they are shipped in such small lots is that the fisherman deals directly with commission merchants in the United States, there being no buyers on this side for this class of fish.

From January 1 to March 1, 1908, there were 157 special invoices certified at this office for 2,337 boxes of boneless cod and haddock. These fish cleared the fishermen \$5,614, an average of about 8 cents a pound.

NORWAY.

AMERICAN MEAT DEALERS NOT USING ADVANTAGE AT PORT OF BERGEN.

Consul Felix S. S. Johnson, in the following report from Bergen, draws the attention of American meat exporters to the Norwegian market:

The exporters of the United States are not active in further developing this trade, for prices of all kinds of meats at Bergen have advanced during the past year, owing partly to crop failures, whereas the prices for American hams and bacons have declined. While the customs duty on this article is high the importations are heavy, and the trade is gradually slipping away from the United States and going into those of near-by countries. From the following figures it will be seen that American bacon is from \$3.40 to \$5.35 per hundredweight lower in price, and hams from \$4.25 to \$4.86 per hundredweight lower than twelve months ago. This is a difference of between 4½ cents and 6 cents per pound. The quotations are for February 13, 1908, compared with the same date last year:

Variety.	1908.	1907.
American—		
Cumberland.....	\$9.25 to \$10.00	\$12.90 to \$13.40
Bellies.....	9.75 to 10.70	13.75 to 15.00
Hams.....	10.10 to 10.95	14.10 to 15.80
Canadian.....	10.95 to 11.65	13.60 to 14.10
Irish.....	12.65 to 14.10	14.85 to 15.80
Danish.....	12.15 to 12.90	14.10 to 14.85

The lard imported at Bergen from the United States is not the best, and it is suggested that the better quality be introduced on this market. [Names of importers of American meats at Bergen are recorded at the Bureau of Manufactures.]

PRESERVING EGGS.

NEW ITALIAN METHOD CHEAP AND EFFECTIVE.

Consul D. I. Murphy, of Bordeaux, forwards the following synopsis from a French journal on a new method of preserving eggs, which, he says, appears to have the double merit of cheapness and simplicity. The article was based upon the experiments of Doctor Campanini, as reported by him in the December bulletin issued by the Italian minister of agriculture.

Doctor Campanini, after reviewing the various known means of preserving eggs—by salt water, lime water, silicate of potash, vaseline, and cold storage—described his experiments, which showed better results than all others.

His theory is that to preserve eggs some system must be adopted that will absolutely prevent the exchange between the air outside and that inside the egg—for it is this continual exchange that causes putrefaction.

Doctor Campanini selected perfectly fresh eggs and covered them with lard, so as to effectually stop up all the pores. The shells were thus rendered impermeable, the exchange of air was prevented and, the obstruction of the pores not permitting the evaporation of the

water, there was no loss of weight. The whites and yellows of the eggs retained their color perfectly and the taste was not modified in the slightest degree. When properly coated with lard—not too thickly—the eggs are put in baskets or boxes upon a bed of tow or fine odorless shavings and so arranged that there will be no point of contact between them—otherwise a mold will develop and putrefaction result. The packing room should be perfectly dry, the question of temperature not being important. By his process Doctor Campanini kept a quantity of eggs for a whole year—through a very hot summer and a very cold winter—and they were perfectly preserved. He says that 4 cents worth of lard suffices to coat 100 eggs, and that anyone could easily prepare that number of eggs in one hour's time.

HANKOW TEA TRADE.

REVIEW OF CHINESE MARKETS FOR THE PAST SEASON.

Vice-Consul-General Willard B. Hull submits the following information and statistics with regard to the Chinese tea business at Hankow during 1907, commonly called the 1907-8 season:

The market opened with brisk buying and high prices. Nearly every chest that was put on the market was immediately taken up, and several buyers remained in Hankow considerably after the market was closed in hope of picking up some odd lots. With the increasing number of large steamers of the ocean-going type, the shippers are able to make better arrangements for freight and secure quicker delivery to the consuming market. The season has on the whole been one of the best for several years, and native dealers have been well satisfied with the higher prices paid them.

The total supply of Hankow teas was 540,278 half chests (a half chest=45 to 48 pounds), against 478,848 half chests in 1906, and 514,325 in 1905. The first crop of Hankow teas was 386,350 half chests, against 372,151 half chests in 1906, and 410,650 half chests in 1905.

The total sales of Hankow teas on this market throughout the season of 1907 was 512,148 half chests, as compared to 467,504 in 1906, and 450,752 in 1905. The total sales of Kiukiang tea during the past season amounted to 186,148 half chests, against 157,961 in 1906 and 177,178 in 1905. Shipments to Russia via Tientsin and northern ports were 7,266,663 pounds, while 11,278,174 pounds were shipped in 1906, and 9,446,866 during 1905. Shipments to Shanghai on native account during the season were 32,384 half chests, against 90,045 in 1906, and 67,073 in 1905. The total Russian business is estimated at 545,000 half chests, against 440,000 in 1906, and 500,000 during 1905.

QUALITY, SUPPLIES, AND EXPORTS.

The quality of the teas was practically the same as the year before, but the finer grades brought higher prices, as was shown by the increase of 10 per cent for best Khemuns during June. Hankow teas, as a rule, sold well during the entire season, the first crop being disposed of quickly. Demand generally fell away toward the end of July and beginning of August, owing chiefly to poor qualities. Common teas brought high prices throughout the season, and the quality was in most cases below that of the 1906 season. Best Ichang teas brought 66 taels per picul, the quality being favorably spoken of.

The supplies of Hankow and Kiukiang teas for the past three seasons, in half chests, have been as follows:

Source of supply.	1905.	1906.	1907.
HANKOW.			
First crop.....	410,650	372,151	386,350
Second crop.....	70,625	60,010	109,690
Third crop.....	33,050	46,687	44,238
	514,325	478,848	540,278
KIUKIANG.			
First crop.....	167,865	158,855	159,040
Second crop.....	14,500	7,729	10,862
	182,365	166,583	190,402

The total trade for the last three seasons in half chests has been :

Disposition of crop.	1905.	1906.	1907.
Sales.....	627,930	544,042	698,296
Shipped on native account.....	67,073	90,045	32,384
Stocks.....	1,687	11,344	Nil.
Total.....	696,690	645,431	730,680

The export figures in pounds have been as follows:

Kind.	1905.	1906.	1907.
Hankow teas.....	38,716,900	34,506,133	40,452,800
Kiukiang teas.....	11,682,800	10,996,933	12,625,533

The export of tea in pounds as per customs returns were:

Whence exported.	1905.	1906.	1907.
Great Britain—			
Direct.....	3,126,228	Nil.	2,132,386
Via Shanghai.....	2,882,661	4,382,002	5,438,134
Russia in Asia.....	Nil.	4,219,413	13,064,994
Russia in Europe.....	27,435,560	16,219,164	13,979,125
Tientsin and northern ports.....	9,446,866	11,278,174	7,266,663
United States and Canada.....	4,536,600	4,519,701	6,202,798
Continent of Europe.....	1,953,360	2,210,000	2,906,059

SOURCES OF SUPPLY.

Particulars of the number of half chests of tea received from each district in the provinces of Hupeh and Hunan for the past three years follow:

Locality.	1905.	1906.	1907.	Locality.	1905.	1906.	1907.
HUPEH PROVINCE.				HUNAN PROVINCE.			
Sung yong.....	7,385	6,452	8,395	Oonfan, Toyune.....	186,963	180,005	206,671
Yang lo tung.....	35,895	32,785	32,081	Seang tan.....	40,344	39,468	43,191
Tong shan.....	22,704	20,931	12,462	Ohong sow kai.....	39,406	36,240	46,756
Ko kew.....	32,040	28,407	34,288	Li ling.....	12,493	11,810	14,520
Ma kew.....	1,359	1,256	1,681	Ping kong.....	14,302	13,823	14,699
Tai sa ping.....	25,949	23,400	27,196	Nip can sen.....	34,258	30,568	33,971
I chang.....	9,755	8,251	10,654	Low yang.....	22,632	19,491	24,090
Total.....	135,087	121,482	126,757	Wun kai, Bek kong.....	20,894	19,978	21,464
				Yong low sen.....	4,545	3,032	4,017
				Wei san.....	3,401	2,942	4,142
				Total.....	379,238	357,357	413,521

Particulars of the quantities of half chests of tea received at Hankow and Kiukiang from the Kiukiang and Wenchow districts follow:

Locality.	1905.	1906.	1907.
Ningchow.....	108,802	96,422	105,298
Khemun.....	71,387	68,811	85,104
Kutoan.....	2,190	1,850	Nil.
Total.....	182,379	166,583	190,402

The market opened on May 15, 1907, and about 43 chops of Kiukiang tea were shown on the market and several were sold. Hankow teas were shown, but no sales made until May 17. Khemuns were better than the previous year and the market opened strongly, prices being about 7 per cent higher than last season, owing to large purchases by the Russians. Hankow teas, and especially Oonfans, were better than the previous season, prices being about 2 taels (a tael at that time equaling 73 cents American) per half chest higher. During the latter part of May the market for Hankow teas was very strong and prices advanced to 1.50 taels per picul (133½ pounds). The price for medium Khemuns rose in some cases to over 15 per cent above the previous year's prices. Ningchows were not strong, the market price being about 30 taels per picul.

SUGAR PRODUCTION.

MEXICO.

PRICE OF LAND AND COST OF PREPARATION FOR CANE CULTIVATION.

In reply to requests for information additional to that contained in his previous report, Special Agent Arthur B. Butman supplies the following supplementary statistics:

Lands in a virgin state, suitable for the growing of sugar cane, and situated in the tropical portions of the country—that is, in the States of Veracruz, Chiapas, and Tabasco—range in price from \$1 to \$3 gold per acre. In the Tampico section, State of Tamaulipas, one finds such lands higher in price; the influx of Americans thereinto having had the effect of increasing the value of property.

Regarding the cost of clearing, cleaning, and planting lands suitable for cane cultivation, from 55 to 65 pesos (\$27.38 to \$32.37) per acre is a fair estimate. This includes the clearing and burning of timber and planting of cane, also the cultivation of the cane for the first crop. This cost refers to lands which may be located in the States of Veracruz, Chiapas, Tabasco, and Campeche—that is, the hot lands, where vegetation is exceptionally rank. After the first crop is obtained the expense is, of course, reduced accordingly.

If modern machinery and methods are employed, the plant under the supervision of an experienced and competent manager, and the cane yielding a density of 9 to 10½° Baumé, 1 ton of cane yields 200 to 210 pounds of white sugar.

COST OF PRODUCING SUGAR AND ALCOHOL.

The cost of producing white sugar in Mexico after the land has been prepared, i. e., planting cane, cultivation, cutting, conveying to mill, crushing, and boiling juice, paying all salaries, taxes, interest

on capital, etc.—in fact, including every expense on the plantation—is from 62 to 90 pesos (\$30.88 to \$44.82) per ton of sugar, according to the wages for labor, which range from 50 to 75 centavos—say 25 to 38 cents—per day; in some instances perhaps a little less.

The quantity of alcohol obtained from a ton of cane yielding a density of 9 to 10° Baumé depends on the per cent of extraction; cane yielding 70 per cent of juice on weight will yield from 9 to 10 per cent of alcohol. The cost per liter (1.05 quarts) of producing 96 per cent alcohol from sugar-cane juice averages a little over 1 centavo ($\frac{1}{2}$ cent) after cane is delivered at the mill; the cost when made as a by-product of sugar is comparative, a large amount being handled as easily as a small quantity, and the only expense being that of the still man, as waste steam is utilized for both pumping and distilling.

Under present conditions it is said that cane can be delivered at the mill for 4 pesos (about \$2) per ton; produced under general administration or by contract, 6 pesos (about \$3) per ton.

CUBA.

REDUCED ESTIMATES OF YIELD—POOR BUSINESS OUTLOOK.

Consul-General James L. Rodgers, of Habana, states that the estimates on the sugar crop of Cuba have fallen below 1,000,000 tons and only the most optimistic cling to the hope of that amount. Under date of March 13 he reviews the market and its effect on business as follows:

The great majority of planters and others vitally interested assert that 950,000 tons will represent the possible maximum, and 850,000 tons the minimum. There is good reason for believing that 900,000 tons is not too low an estimate, for it is known that cane cutting has practically ceased in many districts, that field hands refuse to work on account of the impossibility of making satisfactory wages, and that some of the mills will stop grinding on April 1 or thereabouts.

Under the most favorable conditions only about six or seven weeks of the grinding season remains, and it is generally stated that by March 16 it will be possible to estimate accurately the total volume of the crop. The latest statement which contains absolute verification of the great deficiency shows a falling off of nearly 40 per cent in the 1908 shipments and stock, as compared with those of 1907 on the similar date (March 1). If the same ratio of loss is maintained the volume of the 1908 crop would be somewhat below 900,000 tons.

The effect of this realization of the size of the sugar crop and the knowledge that there has been little gain in price to the various producers on account of their financial necessities, has already had a serious effect upon business and the revenues of the Government are decreasing in sympathy, while many business men consider the general outlook uncertain and unpromising. The wholesale merchants say they are not importing in the usual volume because they have not the money, and because the country storekeepers are, through caution, refusing to purchase goods. The general opinion is certainly that this will be a bad business year and that 1909 may be worse.

JAPANESE FLOUR MARKET.

DEVELOPMENT OF THE MILLING INDUSTRY—IMPORTS OF CEREALS.

Consul-General Henry B. Miller, of Yokohama, reports in relation to the flour trade in Japan that the tariff law promulgated March 31, 1906, which took effect October 1, 1906, by which the duty on flour was placed at 72½ cents per 133 pounds, has resulted in a very extensive development of flour milling in that country. The same law placed a duty on wheat of 28½ cents per 133 pounds. Mr. Miller, writing under date of January 23, continues:

Foreign flour imported from the United States and Australia into Yokohama and Kobe averaged about 6,500,000 bags per year for the last three years. Since the latter part of last year many flour-milling companies have been established both in the Kwantō and the districts in the neighborhood of Osaka, the daily output being estimated at 10,000 bags. [The names and detailed output of these mills may be obtained from the Bureau of Manufactures.]

The imported American flour which has accumulated in and about Yokohama is estimated at about 400,000 bags at present, and there has been a tendency toward a lowering of prices since last month. As the Japanese companies are said to have an abundant stock of raw material on hand at comparatively low prices, it is expected that there will be keen competition between the imported and home-made flour in the near future, and it is also expected that the price of flour will fall considerably in the course of a couple of months or so.

LARGE PROFITS—PROSPECTS OF THE INDUSTRY.

Reports of the operation of these Japanese mills for the year 1907 have been extremely satisfactory. The dividend declared by one flouring mill company for the first half of the year (1907) was at the rate of 23 per cent per annum, and the dividend declared by a Yokohama concern for the last half of that year was at the rate of 25 per cent per annum.

The establishment of these milling enterprises was looked upon by the American flour exporters with an interest of uncertainty as to their success. They seem, however, to have become firmly established enterprises, with a successful prospect ahead. The motive of the Japanese Government in providing protection sufficient to establish the flour mill business in Japan was evidently for the purpose of making the country entirely independent in the matter of the food supply of flour. They would have a broader field to draw from by establishing the mills in the Kingdom than if they depended alone upon the direct imports of flour. They can now buy their wheat either from Siberia, Manchuria, China, Korea, Australia, India, or the United States, and the industry has also stimulated the production of wheat in Japan. Especially will this be true in the northern part of Japan, in the island of Hokkaido, which is primarily a very good wheat growing country.

It is very difficult, however, to make a prediction as to the future of the flour market in Japan for foreign flour, because of the possibilities of the extensive development of the market. The Japanese

diet is gradually changing more into the character of diversified food; meat, milk and flour are especially entering extensively into use by the masses of the people of Japan, and there is every probability that the consumption of flour will increase at a more rapid ratio in the future than it has in the past.

In 1906 Japan imported wheat to the value of \$657,678, and during the eleven months of 1907 ended November 30, to the value of \$1,354,653. The importation of both wheat and flour rose from \$542,000 in 1896 to \$6,981,729 in 1905. In 1906 \$4,781,365 worth of wheat and flour was imported and during the eleven months of 1907 ended November 30 there was imported \$4,281,067 worth.

SWISS DRINK REGULATIONS.

HOW THE RETAIL LIQUOR TRAFFIC IS CONDUCTED AND RESTRICTED.

Consul R. E. Mansfield, of Lucerne, states that as the general and widespread agitation for greater restriction of the liquor traffic at this time renders the question of the control of that branch of business in other countries of special interest to the people of the United States, he gives the following facts of its conduct in the Swiss Republic:

In Switzerland the laws governing the sale of intoxicants are cantonal, each canton legislating on the subject in a way that is considered best for the locality. The general plan is to limit the number of saloons or bars in proportion to the population. The average is one saloon for about five hundred inhabitants, although in some towns and cities the proportion is one for each two hundred, while in the rural districts the basis is not infrequently as high as one per thousand.

In the canton of Lucerne the rate for license is comparatively high. Saloons are classified, the privilege of operating a bar in a first-class hotel costing much more than for a small restaurant or beer hall. Here the minimum price for license to sell intoxicants at retail is 200 francs, equal to about \$40 a year, and the maximum for large first-class hotels 6,000 francs, equivalent to about \$1,200 per year.

Each municipality or community decides the number of saloons to be licensed, based upon the number of inhabitants, and when the number prescribed has been reached no influence, political or financial, can secure an additional privilege.

The hour for closing is generally 12 o'clock at night, and as a rule it is strictly observed, any violation of the law resulting in a forfeit of the license. Any special privileges desired by the holder of a liquor license must be applied for to the proper authorities, and, if granted, they must be paid for in addition to the regular annual fee. All license fees in Switzerland must be paid one year in advance, and any neglect on the part of the holder to comply with this requirement results in a forfeit of the privilege.

LIMITED NUMBER OF LICENSES—USE OF REVENUE.

There are no technicalities of the law governing the traffic whereby the holder of a license can avoid a strict compliance with its requirements. The limited number of licenses issued also encourages the strict observance of the law, as a bar privilege is considered valuable

because of the fact that when the maximum number allotted to a community has been issued, it is impossible to secure an additional privilege until one is surrendered or forfeited.

All the revenues received for liquor license are expended upon public schools and the improvement of roads in the canton where the privilege is granted. Three-fourths of the money thus collected is apportioned for educational purposes and the remainder for public highways.

The drinking of alcoholic beverages is general, but not excessive, among Swiss men, though not common among the women. There is little drunkenness in the country, especially in German Switzerland, where the beverages most commonly consumed are beer, light wines, and cider. One rarely sees an intoxicated person on the streets of Lucerne, and never a boisterously drunk one, unless it be in the tourist season, and then the bibulous individual invariably proves to be a foreigner.

The net result of the liquor traffic in Switzerland would seem to be that it is regulated so as to secure a large revenue, which is applied largely to a maintenance of public schools, and at the same time so restricted as to prevent any abuse of the privileges granted with a license to engage in the business.

FRENCH WINE CROP.

OFFICIAL REVIEW OF LAST YEAR'S VINTAGE RESULTS.

Consul-General Robert P. Skinner, of Marseille, advises that the importance of the French wine crop of 1907 has been determined upon a basis which admits of no doubt as to the literal exactitude of the statistics, which he thus reviews:

In former times the importance of the wine crop and the area planted in vines could only be ascertained by estimation, while the figures now available for 1907 rest upon declarations made by landed proprietors in execution of the law of June 29, 1907. Under this legislation (prompted by the increasing difficulties of the wine growers) the area planted in vines, the crop of grapes harvested, and the amount of wine produced are declared and verified according to a painstaking system fully set forth in the law.

The quantities of wine produced in 1907, as thus ascertained, reached the enormous total of 1,745,381,311 gallons. The important material facts regarding the crop for the past two years are as follows, all the figures representing gallons:

	1906.	1907.
France.....	1,375,774,273	1,745,381,311
Algeria.....	182,428,420	227,218,622

The crop figures out for last year at 1,056 gallons per hectare (hectare = 2.47 acres) for France, and 1,532 gallons per hectare for Algeria.

The French crop exceeds by 369,607,064 gallons the estimation of the crop published for the year 1906, and exceeds by 456,481,301 gallons the average of the last ten years. However, the French administration observes that estimates for former years are sensibly

lower than the reality, in consequence of the tendency on the part of local reporters to diminish their figures, with the idea of sustaining the market.

AREA AND YIELD BY DISTRICT.

The extent of the French vineyards in 1907 was 4,075,134 acres, or 120,364 acres less than the preceding year. It is recalled, incidentally, that at the end of the eighteenth century the area of the French vineyards was estimated at 3,821,752 acres, and in 1851 the area had reached the figure of 5,386,852 acres. The chief producing departments, as heretofore, are the seven departments in the neighborhood of Marseille, the production of which is stated to have been in gallons as follows:

Department.	1906.	1907.
Aude.....	113,862,192	221,469,127
Bouches du Rhône.....	23,620,604	35,658,873
Gard.....	58,870,102	114,863,124
Hérault.....	216,619,400	353,862,606
Pyrénées Orientales.....	47,484,217	119,430,767
Var.....	35,612,184	46,330,212
Vaucluse.....	18,237,474	22,894,624

The yield per hectare varied from 1,954 gallons in Hérault and Pyrénées Orientales down to 713 gallons in Vaucluse. These figures are supplied by the Minister of Finance, under date of January 31, 1908. The same report shows that the stock of wine produced prior to 1907, now on hand, is 219,159,706 gallons.

According to alcoholic strength the wine crop of 1907 may be thus divided: Wines of less than 11 degrees, 1,556,642,425 gallons; of 11 degrees, 140,490,460; of more than 11 degrees, 48,248,442.

SALES RESULTS—GENERAL CONDITIONS.

Based upon the prices realized by the growers, the value of the crop of 1907 reached the sum of \$215,647,320. In this total the wines which brought more than 50 francs per hectoliter (\$9.65 per 26.41 gallons) and classed as "superior wines" stand for \$17,939,839, corresponding to a quantity of 29,054,096 gallons, while the very moderate sum of \$197,707,480 was realized for the enormous quantity of 1,716,315,618 gallons of light wines.

The French cider crop of 1907 is established at 88,766,885 gallons, against 589,142,270 gallons in 1906. The cider crop is below the average of the last ten years by 342,806,544 gallons.

The French indirect tax department submits the following opinions:

The recent crisis in the wine trade seems not to have been due to a phenomenon of overproduction. The statistics tell us that at the last harvest time the stocks of wine on hand did not exceed 219,159,706 gallons, of which 62,330,723 gallons were in the Gironde (Bordeaux) department. This is a very low figure if the total annual crop be compared thereto, and if one considers that it includes all the high-class wines, which are seldom delivered until they have aged several years in the producers' hands. One may say that there remains no unsold wine, properly speaking, and that France does not produce, in reality, more wine than she can utilize either for domestic consumption or exportation. This demonstration is reassuring for the future; it confirms what was said during the discussion of the law of June 29, 1907—that there is no permanent general overproduction, but that the phenomena of local overproduction may be produced in certain regions, in certain years, phenomena the effects of which may be overcome by a better selling organization.

CIDER INDUSTRY.

FRANCE.

IMPORTED MATERIAL NECESSARY—AMERICAN APPLE PROSPECTS.

Consul A. Gaulin makes the following report from Havre on French cider production and the probable effect of the new French pure-food law on the importation of American apples:

According to recent official estimates, the French cider crop in 1907 amounted to only 72,805,000 gallons, being the lowest figures ever recorded, with the exception of those for the year 1871, when the production fell to 56,215,000 gallons. During the decade from 1897 to 1906 the average annual production was 430,275,000 gallons. The year 1904 established a record with 1,081,831,000 gallons, and the year 1906 was also above the average, with 574,634,000 gallons, while 1903 and 1905 produced only 149,810,000 and 127,541,000 gallons, respectively. It is notable that there never has been in France more than two large cider crops in any given period of five years.

The average annual cider consumption in France being between 344,000,000 and 370,000,000 gallons, this season's production is manifestly inadequate, although fairly large stocks were left over from the previous season.

There appears to be a considerable increase in the importations of Spanish apples, and there would probably be an unusually brisk demand for American apples were it not for a strict interpretation of the French pure-food law, to the effect that no product may be sold as "cider" which is not prepared exclusively from the juice of green, or fresh, apples. Chopped apples can not, accordingly, be used in any manner for mixing purposes, but it is allowable still to use them in the making of a weaker kind of cider commonly designated as "boisson Normande," or simply "boisson," of which there is a large consumption among the laboring classes in Normandy. It is, therefore, most likely that there will always be a good demand for these goods, but it is possible that a rigid enforcement of the law in question along the lines stated may prove an obstacle to what has been until now an important and constantly growing trade.

MEXICO.

OPPORTUNITY IN MEXICO FOR SALE OF AMERICAN BOTTLED CIDER.

Consul A. J. Lespinasse, writing from Tuxpam, says that there exists an excellent demand throughout Mexico for sparkling bottled cider, to which he adds:

In this and surrounding territory, however, American bottled cider is rarely seen, and the idea prevails that it is of inferior quality and prepared by artificial means, which renders it detrimental to health. Spanish cider is exclusively imported and can be obtained in all grocery stores, restaurants, and hotels. If properly introduced, the many excellent qualities of American cider would be quickly appreciated and secure a permanent foothold in this market, which would annually consume large quantities.

The duty on bottled cider is 25 cents, Mexican, per net kilo (2½ pounds). California wine manufacturers would find Mexico a profit-

able field for the sale of their products, and should endeavor to enter this trade. The pure, wholesome wines and brandies of the State of California would undoubtedly be very welcome. The duty on bottled white and red wines is 25 centimes (centime= $\frac{1}{2}$ cent American) per net kilo; in wood, 13 centimes per kilo gross. The duty on brandy in wood is 55 centimes per liter (liter, 1.05 quarts); in glass, 75 centimes per liter.

BRAZILIAN COFFEE.

SAO PAULO ORGANIZES A COMMISSION TO EXTEND SALES.

The president of the State of Sao Paulo, Brazil, has issued a decree organizing the "Coffee propaganda service," a copy of which is furnished the Department of State by Ambassador Dudley, dated Petropolis, February 24. Under the decree a board is created and attached to the Department of Agriculture, Commerce, and Public Works. This board is styled "The Administrative Board of the Coffee Propaganda Department." Following are the principal functions assigned this board:

To study the conditions of the consuming markets and to lay before the secretary of agriculture such proposals as they may consider advisable for the stimulation of consumption, either by developing existing markets or conquering new ones, and for defense against fraud and imitations.

To be constantly studying every possible measure for the propaganda of coffee and to devise means whereby the advantages of using coffee may become more widely known, and to point out to the consumer the drawbacks to himself of using substitutes and imitations.

To direct and superintend the service of propaganda for increasing the consumption of coffee and to see that the companies who have contracted for this service with the State carry out their obligations in a satisfactory manner.

To issue instructions to aid those fiscals in the performance of their duties who have been appointed to such companies as have contracted for the propaganda of coffee.

To organize traveling propaganda exhibitions to visit the principal markets under the direction of a member of the board to show the various products of the State and to exhibit on the cinematograph views illustrative of our development and civilization, our agriculture, and our industries.

The board will consist of four members appointed by the president of the State, acting on the advice of the secretary of agriculture.

The president and secretary of the board after appointment shall remain in this capital to attend to the special duties of the board.

The two other members of the board shall take it in turns to travel abroad so that they may always be in touch with the propaganda campaign.

Grants in aid of coffee propaganda shall be made to private individuals or companies who conform to the regulations of this decree.

Grants shall be made for a maximum period of five (5) years in cash or kind—coffee—the price of the latter to be fixed by Government.

Grants of cash shall not exceed 20 per cent of the capital of the contracting company, nor shall grants of coffee (of a value not exceeding the said percentage) be made until after the money grant has been used up.

Grants shall be made by preference to companies of a national character or whose object is the development of national products.

The trade-mark of the contracting parties shall be authenticated by Government and it shall not be changed while the contract is in force.

Only coffee from the State of Sao Paulo shall be dealt in.

The types of coffee to be used—raw, roasted, in bean, or ground—to which the official mark of the State shall be affixed shall be subject to the approval of the administrative board.

The use of the official mark is guaranteed to the contracting party exclusively in his own sphere of operations for the whole term of the contract and shall belong to him after the grant which has been made to him has been discontinued.

AGRICULTURE.

CROPS AND FARM EQUIPMENT.

ITALY.

FOODSTUFF NEEDS AND LABOR SCARCITY CREATE MACHINERY MARKETS.

Consul James E. Dunning, of Milan, in the following report on American agricultural machinery in Italy, explains the special opportunity that is developing for their greater sale there:

During 1907 the United States was the largest seller of agricultural machinery in Italy, whose wants in this regard are increasing every year. During 1907 up to October 1 imports into Italy from all sources, and taking account of all classes of machinery in this line, amounted to 7,365 tons, of which the United States furnished 2,535, Germany 2,534, France 504, Great Britain 1,299, and Austria 493.

This class of imports has increased in value from about \$400,000 in 1892, to about \$3,200,000, which was the total value of the tonnage in 1907, or about \$3,000,000 for the nine months stated above. The effect and position of German competition in this important field is evident. Italy is only a beginner in this manufacturing trade as yet, and there is an unusual opportunity for the active American exporter.

During 1907 German sales were largely in plows, harrows, seeders, mowing machines, thrashing machines, root cutters, pumps, boilers, and manure spreaders; while the American goods showing the greatest favor were horse hoes, plows, seeders, harrows, and rollers. The French made some notable sales of machines for special use in beet culture. One of the strong English lines was a corn husker and beater. Austria-Hungary sold Italy most of the scythes, rakes, forks, and other hand implements bought in 1907, this class of goods making up about five-eighths of the total imports from that source. The single province of Mantua, one of the most prosperous of the 9 subdivisions of the Milan consular district, bought foreign agricultural machinery in 1907 to the value of about \$750,000.

LAND AREA AND INCREASED PRODUCTION.

Italy's total land area, in acres of 43,560 square feet each, is divided as follows:

Character:

Barren, or nonproducing	10, 077, 425
Mountain pastures	1, 928, 167
Forests and wood lands	10, 231, 822
Arable land	48, 168, 773
Total	70, 406, 187

These estimates are made by the consulate on the basis of the latest and apparently most authoritative returns from official and other sources.

In the last twenty years there has been a gradual increase in the arable land in Italy, through reclamation and clearing, and a much more marked advance in the quantity of product from the land itself.

The Italian wheat crop averaged, for the years 1890-1894, 151,600,000 bushels, and for 1904-1907 it averaged 200,000,000 bushels. Between 1894 and 1904 the crop per acre of wheat in Italy rose from 11.59 United States bushels to 15.41 bushels. The Italian corn crop increased from 89,677,200 bushels in 1890-1894 (average per year) to 93,103,008 bushels in 1906. The crop of rice has risen in its yearly averages since 1890 by about 33½ per cent. Even with this heavy production, Italy remains an active importer of foreign cereals, 32,509,013 bushels of which were imported from various sources during the first nine months of 1907. The value of such imports into Italy for that period was \$40,323,000, and though Italy is a heavy exporter of cereals, evidence that she does not yet begin to supply herself is clear in the comparison of imports with exports, which latter for the nine months of 1907 ending with September amounted in value to \$34,426,000.

It is true, however, that Italian exports of cereals are gradually increasing, while imports are decreasing, in proportion to the ability of the country to produce heavier crops. Thus, cereal exports for the first three quarters of 1907 were in value about \$6,500,000 greater than for the corresponding period in 1906; while imports for the same time were about \$8,000,000 less. The latent ability of the country in this field is therefore apparent, and its development certainly depends very much upon the extended use of agricultural machinery in place of the old methods of hand labor.

THE PASSING OF HAND LABOR.

The passing of hand labor in Italian agriculture and its effect on the producing power of the country are shown in a review of any one of the great crops of the Kingdom by provinces. Taking the corn crop for 1906, which is the latest full return at the disposal of the consulate, the following result is shown:

Province.	Acreage.	Crop, in bushels.	Province.	Acreage.	Crop, in bushels.
Milan.....	673,780	20,620,070	Rome.....	182,097	3,454,689
Turin.....	374,475	9,257,909	Adriatic provinces.....	454,025	5,685,941
Venice.....	705,862	17,861,911	Mediterranean provinces.....	878,417	8,373,638
Genoa.....	38,047	1,393,309	Sicily.....	9,740	211,131
Emilia.....	431,460	9,957,761	Sardinia.....	17,365	113,131
Umbria.....	472,812	11,410,574			
Florence.....	305,517	4,762,964	Total.....	4,543,597	93,103,008

This table shows how Milan, where industrial development has rapidly reduced the supply of hand labor available for agriculture and created the need for large stocks of agricultural machinery, has become much more productive than Venice, which has a greater acreage, but which has not yet been forced to find a substitute for hand labor to the extent demanded by Milan. One of the principal causes at Milan for the shortage of hand labor in agriculture is the intensification of all lines of factory labor. This tendency has, in a measure more or less equal to that observed at Milan, made itself felt throughout Italy. At the north it has been strong and influential; toward the south it has gradually diminished as the population becomes less and less absorbed in high-class factory work. But the influence of this industrial development has affected the agricultural interests directly, with the result that, considering its outlook for the future, it must greatly improve the field as a selling market for American

exporters of machinery. Further light is thrown on the passing of hand labor in Italian agriculture when it is observed that whereas farm hands in the Milan consular district are paid an average wage of 25 cents (American) per day for men and 15 cents per day for women and children, industrial workers in Milan and the other cities of the district earn from 57 cents to \$1.16 per day, with a daily average for 14 selected typical classes of trades of 76½ cents.

Hence, hand labor on Italian farms is gradually reducing itself by the natural means incident to the changing economic life of the country, and machinery is coming into the field to take its place. Add to this the fact that, on account of the high and rapidly increasing cost of other foods in Italy, cereals are in a constantly growing demand among all classes, and the other fact that the country can not supply itself as yet, and the opportunity for a large increase in sales of farm machinery seems apparent.

METHODS TO GET TRADE.

No line of American goods is handled with more difficulty in Italy than agricultural machinery and tools. Not only is competition exceedingly sharp from the direction of continental rivals in the territory, but the methods long in use here to get a hold with new goods are, as a rule, bewildering to the exporter not experienced in the campaign. The foundation of success must be personal effort, either on the part of well-trained men sent out from home by the manufacturer himself, or by carefully chosen agents on the ground to whom has been intrusted the work of introduction and extension. Catalogue methods are of no avail in this field, but, on the contrary, are of the greatest use to our competitors.

Very much should be left to the representative sent into Italy on this line, and he should be given rather liberal leeway in such methods of exploitation as he may adopt. The consulate has an impression, based on close observation of the case, that some American exporters have given too little care to the choice of their representatives, and too little thought to planning with them the work to be undertaken. The consulate believes that no such attempt should be made until the agent and his principal have gone over the whole situation with extreme care, and given it the closest study as to methods to be used, terms, deliveries, commissions, and everything else which will increase the sense of harmony and confidence between the two.

SPECIAL PROCEDURE ADVISABLE.

This is a special chance, such as the consulate has before referred to, for the establishment at Milan of a general agency to handle goods of this class, placing all the local details in the hands of the persons in charge of it. There is, unfortunately, no such agency here as yet, though there are several which could probably take up American goods of this character if arrangements were made with them to do so. The consulate would advise all interested exporters to make their preliminary plans with unusual care. If the agent is to be chosen here instead of sent out from the United States (and he should not be sent out unless he speaks the Italian language well), all the more care must be used.

This is also one of the cases in which the consulate can not submit to exporters a list of desirable agents suited to engage in all

branches of this business. The best method is to make an inquiry at the consulate by letter, and to give the consulate an opportunity to place the exporter directly in touch with prospective agents for further dealings should they prove to be called for. To make a wholesale and broadcast announcement that an American firm is seeking an entrance into the field and agents to effect that purpose, is deemed unwise. Any American exporter who will supply the consulate with his catalogue, therefore, and a clear statement of the business he wants to undertake, will be placed in communication with agents or firms of agents on the consulate's list who will be given an opportunity to look over the proposition before going into it with correspondence.

Such American firms should indicate in their inquiry letters their ideas as to terms of payment, their methods of shipment, and should state the language in which they prefer to conduct their correspondence with such agents as may be referred to them.

VARIOUS QUESTIONS INVOLVED.

Personal visits to Italy by responsible members of exporting houses in America are always advisable before the beginning of a campaign of this kind. While such of the more important agents as the consulate would naturally suggest would be able to pay cash or its equivalent for their orders, there is some doubt as to whether they would care to do so, particularly in the face of their ability to buy German or Austrian goods on terms of their own making. This question of terms between Italy and America can not be well settled until more of our exporters can come into personal contact with the importers on this side, or until there can be established in Milan, for the whole of Italy, a depot of American goods from which purchases can be made directly. Italy still remains so small a customer in comparison with the vastly greater sales which can be made in Germany, for instance, that up to now the American manufacturer has not been able to deal directly with buyers here with that degree of satisfaction found in some other parts of the Continent where orders are heavier. This has built up the system under which Italian buyers take their goods from German or Austrian or French agents of American houses, making such terms as the agent will themselves agree to and having no connection whatever with the home house.

This method is not advantageous to the future of our goods in Italy, which is advancing so rapidly as to demand direct and careful attention. This attention, in so far as it relates to methods by which the Italian buyer can take his deliveries direct from the American manufacturer, is inevitably involved with the question of terms, and the only solution appears to be the establishment of some general agency in Italy for the exposition of American goods.

FUTURE OF AMERICAN MACHINERY IN ITALY.

At all events, the future of American agricultural machinery in Italy depends largely upon the success with which exporters get into direct contact with the field. The superiority of our stock is not denied, but in spite of its quality it comes into competition with foreign articles which have the advantage of being in the hands of highly trained agents, who make the most of the personal element and even of social influence in getting control of the territory. Very much of a successful campaign of attack upon this trade in Italy

should be devoted to giving the agent a personal influence in quarters having the introduction of his goods under control to a greater or less extent. He should be allowed a great deal of freedom, after careful planning with his house, in operating among agricultural schools, farmers' societies, boards of trade, and similar institutions. That must be regarded as an integral part of his effort to sell American goods of this character.

The consulate would be glad to take up the subject of this report further by correspondence with any manufacturers interested in it who will send to this office an explicit statement of their wants and their inquiries or criticisms. It is peculiarly a situation in which the case of each inquirer can best be discussed by itself.

BOLIVIA.

OPPORTUNITY FOR THE SALE OF FARM IMPLEMENTS—EXPERTS REQUIRED.

Special Agent Charles M. Pepper, writing from La Paz, tells of the development of agriculture in Bolivia and the opening for the sale, to a limited extent at present, of agricultural implements, and the necessity of instructing the natives in their use. Mr. Pepper says:

There is a prospective market for agricultural machinery in Bolivia, though not a big one. It is proposed to introduce some classes of American farm tools on the altiplanicie or central plain where more than half the population, about 1,000,000 of the inhabitants, subsist. The average height of this plain is 12,000 feet, though there are higher elevations which are populated. The plans of the Bolivian Government for the encouragement of agriculture, which are gradually being put into practice, include the central plateau, and improved farming in this extensive region means modern implements. I therefore give some indication of its characteristics and the conditions under which the cultivation of its few crops are carried on.

LIMITED CROPS OWING TO ELEVATION.

Notwithstanding that the region lies within the Tropics the altitude takes it out of the zone of tropical agriculture, while the products of the temperate zone which can be grown are also limited. In the valleys, which drop below 9,000 feet, some corn, wheat, alfalfa, and oats and vegetables and fruits are cultivated, but on the plateau these crops are not a success. The staple products are potatoes, barley, and quinoa. The latter is the nearest approach to wheat that is obtained. It grows about 3 feet high and bears a small but fairly abundant grain something like rice in appearance. Quinoa has considerable starchy matter, and, in addition to its use for solid food, is the grain from which the chicha or native alcoholic drink is distilled.

The Government is now arranging for the introduction of seeds of various kinds, and among the cereals it is suggested that, while no prospect exists of cultivating Kansas, Turkey Red, or other staple wheats of the United States, some variety of Siberian wheat may be found that will be suitable for the Bolivian plateau, which has no such extremes of heat and cold as either Siberia or Kansas. In furthering its plans for developing new crops the Government is likely to seek

the services of an expert from the United States Department of Agriculture, and such an expert should also be useful in showing the lines to be followed in introducing modern farm implements.

NO ARTIFICIAL FERTILIZERS—TRANSPORTATION TOO COSTLY.

The surface of the central plateau is rolling and broken in some places, while in others there are long level stretches or pampas, while in all parts it is stony. Notwithstanding that guano is plentiful and cheap on the Pacific coast, the high cost of transportation of bulky products renders its use for Bolivia impracticable, and there are in fact no artificial fertilizers. Crops are rotated and then the land is rested for a period varying from three to six years. After the period of rest, usually potatoes are the first crop planted, and they yield abundantly. The next year barley for the grain follows, and in the third year barley is again planted, but the grain from this planting is small, and the chief value of the crop is in the straw. Quinoa generally is the last crop of the rotating series.

Even without manuring, better harvests could be obtained by deep plowing and probably a shorter period of resting the soil be allowed. The Bolivian farm laborer turns up about 4 inches of soil with his wooden-beam plow, or pronged stick. However, the ground is plowed twice before it is planted. The rainy season on the plateau generally lasts from November through February. In March, when the earth is soft, the land that has been resting is plowed and left till September, when it is plowed again and sown in time to give the growing crops the benefits of the rains.

FEW IMPROVED FARM TOOLS IN USE.

Up to the present time a very few improved farm tools have found their way into Bolivia to replace the crude implements that have been in use for generations, but there have been enough to show their possibilities. The Bolivian Railway Company, in order to develop local traffic for its lines, is seeking to improve the agricultural methods that are followed, and is cooperating with the Government in the latter's measures.

The Government has lately purchased some agricultural machinery, including ordinary plows, the latter having been bought in Europe. President Montes has imported an American disk plow for use on his own estate and others have been ordered for the Government. There appears to be an opening both for the disks and for the ordinary plows, the latter being likely to command the larger sale. The stony nature of the soil and its dryness at the September plowing might appear to militate against the disk, but for the March plowing, when the soil is moist, it would seem to serve the purpose. Many of the farms on the central plateau are miles in extent, so that the disks are not open to the objection of lack of space in which to utilize them to advantage. The single disk, adapted to three animals, would appear to have the best chance in the initial experiments, since three animals can be driven in the field abreast, while to handle a double disk with four animals would be more than twice as difficult. However, both kinds are likely to be tested.

LARGE AND SMALL FARMS—OXEN USED—NO HORSES.

Though there are many great estates on the table-land, there are also a very large number of chacras or small farms cultivated by the

Indians under leases and customs which give them substantially the rights of ownership. It is this class that must be looked to if a market for ordinary plows is to be developed, though the example will have to be set by the large landowners. Bullocks or oxen are universally employed, but while farm horses are out of the question mules can be obtained. They are brought in from Argentina every year in large numbers for the pack trains, and as the railway lines will lessen the number required for transportation they may be utilized for agricultural purposes.

The idea of the Government in importing improved farm implements is to employ them at the Agricultural School in order to illustrate their economic advantages and to secure their introduction among the big and little farmers. Not much, however, has yet been done in the way of demonstration. I am not informed whether the agents of the manufacturers who have secured the initial orders from the Government and from private parties have been at pains to provide means of practical demonstration, but unless this is done the results will be disappointing. The Bolivian farm laborer will not take to a modern plow by instinct. He must see it working and be taught how to handle it.

In addition to ordinary and disk plows there should be a market on the central plateau for harrows, cultivators, and potato planters. Potatoes are an important crop and the area given up to them each season is considerable. A New England firm's hoes and other simple tools are already in use, though not extensively.

NO DUTY ON IMPLEMENTS—A PERMANENT EXHIBIT ADVANTAGEOUS.

It is not practicable to give an idea of the relations of the retail price of agricultural implements in Bolivia to the factory price in the United States because so few sales have been made. Agricultural machinery is admitted free of duty, but the freight charges from the seaports are heavy. Nothing in the way of a wareroom for exhibiting agricultural machinery exists, and samples or exhibits by dealers are not to be found except on the most limited scale. Señor Ballivian, the Minister of Agriculture, suggests that a permanent exhibit of American farm tools would in the long run prove a paying investment, since it would serve as a means of ordering by catalogue and would obviate the necessity of dealers keeping large stocks on hand. Its chief value would be as an object lesson, the exhibit being utilized from time to time in giving demonstrations. The Government would cooperate with American manufacturers in establishing and maintaining a permanent exposition of this kind.

IRRIGATION NEEDED—WELL-DRILLING MACHINES ORDERED.

While at some seasons the central plateau has an abundance of water, the distribution of the rainfall is not equable enough to dispense with artificial means. A few windmills are found, and at all seasons the winds sweep across the pampa with ample force. An improved Chicago aeromotor near Lake Titicaca is reported to give very satisfactory results. Two aeromotors have been imported from France by the Government, and one of them has been erected near Sicasica, which is on the dividing ridge of the plateau. Nine well-drilling machines have been imported from Pennsylvania for the Government account, and two of these will be set up on the table-land, one having been loaned to the railway company for use in the station

grounds at Oruro. In purchasing these drills the precaution has been taken to insure the practical demonstration of their utility by bringing out an expert from the United States to operate them. The Bolivian Congress made appropriations for several more well-drilling machines which will be imported during the present year.

HOW MANUFACTURERS MAY GET A START IN BOLIVIA.

I append a list of addresses to which manufacturers may find it worth while to send illustrated circulars and catalogues of the simpler farm implements. There is no prospective demand for steam plows, steam thrashing machines, and the like. In forwarding the list I desire to state that it is meant to serve as the basis for an educational campaign and not as promising immediate sales. The juntas, or agricultural societies, in the different sections are under the patronage of the Government, but they are also a good medium for reaching private purchasers. All printed matter should be in Spanish, for otherwise it is a waste of postage.

American manufacturers who are so well established in the Argentine Republic have an easy means of testing the possibilities of creating a market in southern Bolivia. The railway now runs to Quiaca, on the border, and from this point both Tupiza and Tarija, the centers of population and of distribution of merchandise for southern Bolivia, can be reached by a day and a half or two days' mule riding. Tarija is the more important as the center of a farming district, and the Government School of Agriculture is located there. The Buenos Aires agents of the American firms can easily get in touch with this territory.

In outlining the market possibilities of the central table-land and the semitropical valleys I would not be understood as limiting them to these districts. The real agricultural zone of Bolivia is the vast region known as the Chaco, which spreads from the Atlantic slope of the Andes to the Paraguay River. But this region is now populated only by Indian tribes, and by wild cattle. Railways, colonization, and irrigation are measures of the future to secure its development, and while all of them are in project they have not advanced far enough to call for a description of the Chaco as a market for agricultural implements.

[The names of persons and firms to whom catalogues and other information may be sent are on file at the Bureau of Manufactures.]

SANTO DOMINGO.

COMMERCIAL AND ECONOMIC RELATION OF THE TOBACCO CROP.

Vice-Consul A. W. Lithgow, of Puerto Plata, regards tobacco as the most important crop in the island of Santo Domingo, by reason of benefiting the largest number of people. He describes the present status of the industry:

The tobacco crop of the Dominican Republic the past year was the largest known, but has been a disappointment owing to the long-continued drought, the young plants not receiving rain when most needed. A sufficient area was planted to have produced 300,000 bales, or 36,000,000 pounds (a bale contains 120 pounds), but the crop has not exceeded 220,000 bales, or 26,400,000 pounds. The quality has also been poor.

Virtually all the tobacco of this country goes to Germany, whence a great quantity is sold to Russia, Austria, and England, where it is used in the manufacture of inferior cigars and pipe tobacco.

In this connection an error occurs in the statistics of "Foreign Commerce of the Republic in 1905," published in the Bulletin of the Bureau of American Republics in May, 1906. That report states that 11,510,712 pounds of leaf tobacco, valued at \$840,487, were exported, of which Germany took 5,890,665 pounds, the United States 3,719,458 pounds, and France 1,900,639 pounds. However, only 41,870 pounds were actually for the United States. This error arose from the fact that the Clyde Line steamers carry tobacco to New York in transit, from where it is transshipped to Germany. Another statistician, in writing on the foreign trade of the Republic for the first six months of 1906, says:

The shipments of tobacco to Germany dropped from 3,362,684 pounds to 744,180 pounds, while the United States increased its purchases 600,000, having been less than 60,000 pounds during the first half of 1905. The remainder, 349,174 pounds, went principally to France.

I find that only 1,866 pounds were actually shipped for the United States during the entire year 1906. Neither does France take any of this tobacco. The amounts credited to her are simply shipments made by the French line of steamers and transshipped to Germany from Havre.

PRICES RECEIVED—SMALL NET RETURNS.

Hamburg started paying 35 marks (mark=23.8 cents) per 50 kilos (kilo=2½ pounds) in 1907, but soon the price dropped to 26 marks owing to its poor quality. This would make the average price in Germany 30 marks, or \$7.14, per 50 kilos. At these figures the value of the crop placed in Hamburg would be \$1,713,000.

It is interesting to dissect the foregoing figures and find the relatively small amount the farmer receives from the crop that holds third place in value in this Republic. The average price paid the farmer for the three standard qualities was \$4 per 50 kilos. As the price dropped in Germany this was reduced to \$3. This makes the average price received by the farmer for the crop \$3.50 per kilos.

The expense to the merchant in preparing for shipment—i. e., separating, baling, etc., railroad freight to seaboard—is \$2.35, so the value of the crop at shipping point is \$5.85 per 50 kilos—110 pounds. The expenses for shipping, freight, commissions, and expenses in Germany are \$1.75 per 50 kilos. In résumé, for a crop of 220,000 bales, or 26,400,000 pounds, the \$1,713,000 valuation must be divided as follows:

Farmer receives.....	\$840, 000
Laborers and railroad.....	564, 000
Expenses to and in Germany.....	420, 000
	<hr/>
	1, 824, 000
Value of the crop in Germany.....	1, 713, 000
	<hr/>
Loss to merchants.....	111, 000

The exporter actually loses about 4 cents on every 110 pounds of tobacco he ships. In considering the foregoing figures it is seen that the economists of the Republic have a serious problem before them. If the above were an unusual occurrence it could be put down as an

unfortunate year, but to my knowledge the years that the exporter makes money on his tobacco are few and far apart.

The Government in its efforts to better this condition last year brought two Cubans to show the people how to grow and cure their tobacco, but for some reason there were little or no results.

COMPARISON WITH OTHER CROPS.

Tobacco holds third place in importance among the products of the country when it could and should be the leader. It is the crop that gives more general benefit to the country, as it distributes the public wealth more extensively. Sugar holds first place, and still the people in the southern part of the island, which confines itself to cane growing, are much poorer than those on the northern side, where cacao, coffee, and tobacco are planted. In the south the sugar estates have taken up a vast extent of lands, which have been bought from the small landholders. These last in becoming peons have lost their independence and their earnings are reduced to 50 or 60 cents a day during the sugar season. In the northern part it is different, as the land has remained more generally divided.

Cacao is the second crop in importance. Undoubtedly it is by far the most profitable of all for the planter, but only those that are better off can devote themselves to this crop, as it takes five years to produce. It requires comparatively little labor, so most of the proceeds go into the planter's pocket and result in little benefit to the general public.

These cacao planters live very simply, with few even of the ordinary comforts of life. They raise enough small fruits, hogs, or cattle to pay their living expenses, and as a rule the whole of the proceeds of the cacao is buried or taken out of circulation. If there were banks or other institutions where these people could be induced to deposit their money, then it could be used for enterprises, and the public benefited; but such is not the case. There is enough gold buried in this country to pay its public debt, yet any enterprise of importance that is started must depend on foreign capital.

CROP POSSIBILITIES—EFFECT ON TRADE.

With tobacco it is different, as it takes only seven months from the planting of the seed to market the product, making it the poor man's best crop. It is entirely grown by small farmers, and requires many workers to handle it, but at 3 cents a pound—and the farmer has not received more on an average for many years—there is no money in this crop. The trouble is that the tobacco is grown in a routine manner, and no modern methods are applied. It is cured in a careless way, most of the time being shipped before it has passed through its complete fermentation. Naturally, when it arrives in Europe a large percentage is entirely rotten.

Santo Domingo might not be able to grow any tobacco equal to the "Vuelta abajo" tobacco of Cuba, but it can raise a superior quality to that of Porto Rico and Jamaica. An ideal crop for this country would be a tobacco that would yield 10 cents a pound to the farmer. Then instead of \$840,000 for the crop as stated, they would receive \$2,640,000. This money would be spent by the farmers, for they would like to live better. If this should happen, the imports from the United States to this country would increase 200 per cent.

FRANCE.

ALFALFA SEED GROWING—PRICES REALIZED AND EXPORTATIONS.

The following information in regard to the growing of alfalfa seed in France has been obtained by Consul-General Robert P. Skinner, of Marseille, from official agricultural sources:

Alfalfa, commonly called luzerne in France, is grown very generally in this country. Seed for sowing is commonly obtained in the south of France. The type known commercially as luzerne of Provence is obtained in the Departments of the Bouches du Rhône, Gard, Vaucluse, Drôme, and Ardèche; the luzernes of Poitou are obtained in the Departments of Gers, Aude, Tarn, Sarthe Vienne, Deux Sèvres, and more or less throughout the old province of Anjou; also in a few departments in the north of France. It is unquestionably true, however, that the seed from Provence is superior to all other, yielding more generously and manifesting more resistance to all unfavorable conditions.

The same fields are utilized for growing the hay and the seed itself. In general, three crops of hay are cut from the same field, and sometimes in Provence a fourth crop, called the "regain," is gathered. As a rule the second crop is allowed to mature, although it sometimes happens that the third crop also is permitted to produce seed in warm regions, when the temperature is particularly favorable; that is to say, not too damp.

SOWING AND HARVESTING.

The seed is sown broadcast, and the growing crop requires no particular attention, whether it be intended to cut the grass before or after maturity. Alfalfa is never planted in rows for seed-growing purposes.

The value of lands suitable for alfalfa growing ranges from 2,000 to 3,000 francs per hectare (\$156 to \$234. per acre) in this part of France.

The crop is cut either by hand or with an ordinary mower, and the seed is thrashed out by means of special instruments resembling the wheat-thrashing machine. The cheapest type of "decuscuteur," or classing and purifying machines, is offered for sale at \$17.37. It is claimed for it that it will eliminate stones, dust, all the cuscute, and nearly all the plantain seed, at the same time dividing the grain into two classes, one containing only fine large grains and the other all the small grain. More elaborate devices are offered for sale at from \$34.75 to \$96.50.

The wages paid to farm laborers where alfalfa is grown are usually 3 francs (58 cents) per day. The seed is thrashed by contract, the price varying between 8 and 10 francs per 100 kilos (\$1.54 to \$1.93 per 220 pounds) of seed yield.

YIELD OF SEED.

A wide difference of opinion prevails in regard to the average yield of seed per hectare (2.47 acres). One practical seed man places it at 500 kilos (1,102.3 pounds), while another states that the average is as much as 1,000 kilos (2,204.6 pounds). It is probably somewhere between these two figures. No special difficulties present themselves in this culture which are not met with in farming operations generally.

The most persistent enemy of the alfalfa farmer is the "cuscute" (genus *cuscuta*), commonly called in English "dodder of thyme." This parasite weed stifles the plant and causes its death. As a rule the cuscute and other weeds disappear annually after the first cutting, leaving the second, from which the seed is gathered, comparatively free from objectionable matter. Finally, when the cuscute does mature with the alfalfa, it is eliminated in the "decuscuteur" referred to. In certain regions prior to the second cutting a caterpillar, denominated the "negril," sometimes makes its appearance and devours the flowers before the seed has formed. Until now no efficacious means of fighting this pest has been found.

Damp localities are unfavorable to the production of alfalfa seed; when the plant bursts into flower, new shoots sprout at the base of the plant, and the flower itself dries without maturing.

PRICES AND EXPORTATIONS TO THE UNITED STATES.

The crop of seed is gathered in August, September, and early in October, according to the region, though as a rule in September. After the field is cut the crop is dried, and then follows the thrashing and cleaning operations, which continue two or three months. The price received by the seed grower varies naturally with the year and the crop. In 1907 dealers paid 150 francs per 100 kilos (\$28.95 per 220 pounds) to farmers, this particularly high price being due to the destruction of a large part of the seed crop by inundations. One informant states that three-fourths of the Provencal crop of 1907 was thus destroyed. In ordinary years when the crop is abundant farmers receive 110 to 115 francs per 100 kilos (\$21.23 to \$22.20 per 220 pounds). Exportations of the crop of 1907 have been sold to American buyers who bought early at \$26.62 to \$30.36 per 220 pounds.

The declared value of exportations of alfalfa seed to the United States from the Marseille consular district in 1907 was \$19,866, against \$2,663 in 1906, and \$19,028 in 1905.

COCHIN CHINA.

EQUIPMENTS DESIRED FOR THE CULTURE OF RICE.

Consul Jacob E. Conner, writing from Saigon, sends the following information on the prospects for the sale of American agricultural machinery in French Cochin China:

There is a good business opportunity in Cochin China for manufacturers of rice-farming machinery. The implements chiefly needed are plows, harrows, disk cultivators, thrashing machines, fanning machines, and traction engines. The natives are backward about the use of such machinery, but they have the capacity to grasp their importance, and have mechanical ingenuity enough to manage them.

The colonial department of agriculture is ready to assist in the introduction of such machinery and has asked the American consul for catalogues. Such catalogues should, if possible, be printed in French; but, at any rate, must be attractively illustrated. Colored illustrations to be hung on the walls are effective.

The reasons why this is a promising field are evident from the following statements:

Plowing is done in many cases by means of crooked sticks; in others by plows of the most primitive design. In many cases a vast amount of labor is spent in spading the ground. No harrows have been seen outside the building of the department of agriculture. The thrashing is done by hand, not a thrashing machine or fanning machine has been seen in use. The roads are as fine as any "pike," and just right for hauling by traction engines, while railways are still undeveloped.

The area of Cochin China is about 21,000 square miles—virtually a great level rice field—one-fifth of which is under cultivation. The draft animals are bullocks and carabaos. I believe that an American who knows farming machinery could open up a trade here which would soon grow to large proportions.

GERMANY.

MEMBERSHIP AND IMPORTANT WORK OF THE FARMERS' LEAGUE.

Consul-General Richard Guenther, of Frankfort, advises that the Farmers' League of Germany held its annual convention during the latter part of February, adding:

This agrarian body has now 290,000 members; its numerous branches scattered all through Germany held 8,586 county or district meetings last year. The Farmers' League also displays considerable commercial activity in purchasing and distributing agricultural requisites for the benefit of its members. Its department for agricultural machines and implements last year supplied of those articles to the value of \$163,000, seeds to the amount of nearly \$50,000, also feed and fertilizer stuffs valued at over \$1,700,000. Its cooperative treasury transacted about \$4,250,000 business last year.

MILKING MACHINES.

SUCCESSFUL USE IN GREAT BRITAIN—HOW OPERATED.

Special Agent Roland R. Dennis, writing from England, describes the successful use of machines in milking cows in Scotland, in the following report:

Through the kindness of a Scotch friend I was given opportunities of seeing the practical working of two of the most successful systems of mechanical milkers. This same friend was also good enough to arrange that I could meet a gentleman of Edinburgh, who has been for years intimately connected with dairy interests and is considered an expert on all matters and mechanical appliances connected with the industry. This gentleman reviewed in a terse and most entertaining manner the history of Scotch milking machinery, which covered a term of more than twenty years, and is virtually the whole history of the success of a most practical and labor-saving instrument.

The very first efforts to supplant hand milking were made by an American, who conceived the idea of inserting a long tube in the cow's teat. The claim made was that a valve existed at the junction of the teat with the udder, and that as soon as this valve was raised by the end of the tube the milk would run out of the udder into the

pail placed in the same position as for hand milking. Experience proved that the valve was there, but it opened downward instead of upward, and this class of milker was soon discarded as worthless.

Then experiments were made using an exhaust pump, with rubber cases applied to the teats, and drawing the milk away by suction. This procedure was supposed to exactly duplicate the action of a calf in suckling. Experiments, however, soon developed two serious failings in this idea: first, keeping the teat in what might be called an "exhausted receiver" for six to ten minutes twice each day soon brought about an inflammation of the outer skin of the teat, owing to the lack of proper blood circulation, while the machine was attached; second, the milk, running from the cow to an inclosed pail, failed to come at all in contact with the outside air, and not being areated it neither kept so well nor was as productive for cheese or butter as hand-milked milk.

A PULSATOR SOLVES THE QUESTION.

At this point mechanical milking came to a practical standstill for some years. However, that optimistic feeling that, fortunately for the world at large, seems to imbue the average inventor urged on the many who were endeavoring to work out to a successful ending this difficult proposition. At last a "pulsator" was tried and the question was solved. The pulsator is attached variously in the different systems, but always placed either on top of the pail or directly on the milking tube. It is a very simple, automatically working piston, held in place by a spring which is carefully adjusted according to the vacuum developed by the pump. The vacuum being formed the milk is drawn from the teat, and at the same time the piston of the valve is forced up against the spring by the natural air pressure of 15 pounds to the square inch. Attached to the valve piston is a rod, which actuates a small slide covering two small holes. As the piston moves forward the slide uncovers these holes, outside air rushes in, the vacuum is destroyed, and the milking ceases for an instant exactly the same as in hand milking. Then the spring behind the piston forces the piston back to its normal position, the slide covers the two small air holes, again the vacuum is formed anew, and the movement begins over again.

THE NEW MACHINE IN OPERATION.

Near Dumfries, Scotland, I saw what I considered much the better of the two principal systems work on a herd of 75 cows. The pump in use was a double-cylinder exhaust pump worked by an electric motor. The piping connecting with the pump was carried around the stable just under the molding on the front of the mangers, with a small lever stopcock placed in the pipe between each two of the cows. The machine makers much prefer to have the pipe carried overhead, about 6 feet from the floor, thus making it impossible for the cows to injure their heads or forelegs with the stopcocks. It was not so done, and rightly I thought, in this case, as the superintendent refused to have his handsome stable disfigured by the pipe overhead. The droppings in the stable being cleared up and removed, the two men who adjusted the machines to the cows "washed up," taking care to include their heads in the operation, the motor was switched in and milking began, each cow's udder being carefully wiped with a

towel before the machine was attached. The cows evidently took kindly to the mechanical work, as I did not see one that offered the slightest resistance to the machine being placed. I was told that in nearly a year's use there had not been a single case of injury to any of the cows, and only in a very few cases had they been obliged to favor cows, unaccustomed to the machine, for the first day or two. The 75 cows were milked in less than an hour and a half. Ten milkers were used, which made the average total time consumed per milker per cow twelve minutes.

IRRIGATION PROJECTS.

ASIATIC TURKEY.

A LARGE CONTRACT AWARDED BY THE IMPERIAL GOVERNMENT.

Consul Ernest L. Harris, quotes from *L'Impartial*, of Smyrna, the following interesting notes on the irrigation of the plain of Koniah:

The Vilayet of Koniah is the largest province in Asiatic Turkey. It has an area of 36,000 square miles, or greater than the combined areas of the Kingdoms of Bavaria and Wurtemberg. Of this area, 944,000 acres are covered with forests, and 17,200 are cultivated. One-third of the total area is taken up by the saltings in the midst of which is the great salt lake of Kotch Hissar, with an area of 115 square miles. The numerous fossil shells and fishes found in the great arid plain extending to Koniah show that this high plateau, which rises 3,772 feet above sea level, must have been connected, at one time, with the Mediterranean.

Among the numerous fresh-water lakes of this province, the largest and most important is the lake of Bey Chehir, 58 miles to the west of Koniah. It has an area of 24,300 acres, and is fed by several streams flowing from the neighboring mountains. The difference between the lowest level, in November, and the highest level, in May, is over 16 feet. The overflow runs through the Bey Chehir River, 37 miles in length, into Lake Karaviran (or Soghlou Gueul) to the southwest. This lake, by means of several underground passages situated in rocky ground near the village of Avana, communicates with an underground lake or stream, the size and direction of which are not exactly known.

CULTIVATING LAKE BOTTOMS—WATER DISTRIBUTION.

Still farther to the east, the lake of Karaviran communicates, through a narrow valley, with the Tcherchembe River, which flows through the plain south of Koniah and loses itself in the saltings. However, under normal conditions, the entrance to the valley is about 13 feet above the lake level, so that the water can not overflow except at high level. If the Bey Chehir River supplies water in such quantities that the lake level rises by 5 feet or more, the underground passages referred to can not take care of all the overflow, which inundates the surroundings to an extent of several miles. If, on the other hand, the river supplies but a limited quantity of water, the lake of Karaviran empties itself through the underground passages and becomes, in greater part, a marsh. In this case, those parts of the lake bottom which are the highest, get quite dry, and make the best land for cultivation.

For distributing the water on those parts of the plateau best suited for cultivation, they have relied on the almost inexhaustible supply of Lake Bey Chehir, the water of which will be carried to the lands to be irrigated in a canal about 125 miles long, and for which the courses of the Bey Chehir and Tcherchembe rivers will be utilized as much as possible. These lands are situated southwest of Koniah, on both sides of the Bagdad Railway line, near the village and station of Tchoumra, and they measure an area of 106,200 acres in all.

The irrigating plans, in all their technical details, have been drawn, after surveys extending over three years, by H. & A. Waldrop, the engineers who have built the port of Haidar Pacha. The plans have been approved by the Imperial Government, and the agreement bearing upon them was signed on

November 24, 1907, by the Sublime Porte and the Anatolian Railway Company. By this agreement, the Imperial Government intrusts to the Anatolian Railway Company the execution of the work for account of the Ottoman Empire.

GENERAL PLANS.

The plans, in their general outlines, involve the following works:

The lake of Bey Chehir, toward the river and near the village of that name, will be closed by a barrage 200 feet in length and rising 13 feet above the mean level of the lake. This barrage will have 15 gates, by means of which the flow into the canal will be regulated. The river of Bey Chehir will be deepened wherever necessary up to 5 and 6 feet, and will be diked a little above its outlet into Lake Karaviran. This line of dikes will be provided with a few gates which, in the event of too much water having to be taken from Lake Bey Chehir, will allow an overflow in the underground passages.

Starting from the dikes, there will be a canal 18 miles long running around Lake Karaviran. This canal, 80 feet wide and 5 feet deep, will connect Bey Chehir River with Tcherchembe River, near the village of Tchal.

Lake Karaviran will be drained, and its area of 17,000 acres will be irrigated by the overflow into the underground passages. The river of Tcherchembe is here a regular torrent. From a picturesque gorge from 80 to 165 feet in width it falls in several cascades, from 10 to 13 feet high, into the narrow valley of Balıklava, and continues its winding course beyond the village of Appa toward the plain south of Koniah. But the river bed is very unequal and rises suddenly in several places, which, in times of flood, causes inundations. This bed, therefore, will be regulated. In the first 15 miles, where the grade is about 1 in 500, dams will be constructed at six of the larger falls. Fifteen of the 22 miles remaining will have to be dredged. A little beyond the district of Appa the river bed runs lower than the lands to be irrigated, which then rise in the direction of Koniah. This bed, therefore, can not serve as a canal, and it will be abandoned beyond Appa, near the farm of Yalid. The water will be led up to Tchoumra on an aqueduct 80 feet in length over the Tcherchembe River, which there suddenly turns to the south and runs 33 feet under the aqueduct. Of the 125 miles of total canal length, 64 miles have to be dug out, and besides the great barrage near Bey Chehir there will be 5 other barrages with gates.

EXCAVATING WORK—VAST BENEFITS.

From this main canal the water will be led to the lands to be irrigated in hundreds of distributing channels of a total length of 1,250 miles. This work will call for the removal of 13 million cubic yards of earth. The irrigated lands on both sides of the Bagdad Railway and between Koniah and Karaman, measuring 114,000 acres, and the 17,000 acres reclaimed from the lake of Karaviran, will require 7 billion cubic feet of water per annum.

By accurate measurements, since November, 1904, of the overflow into Bey Chehir River from Bey Chehir Lake it has been ascertained that even in years of drought a supply of over 8 billion cubic feet of water can be relied upon. The year before last the overflow amounted to nearly 14 billion cubic feet and this year, until November 1, to 21 billions. Careful observations and measurements have further shown that evaporation through climatic causes is so small (not even 18 inches per year in the lake of Bey Chehir) that it need not be taken into consideration. There will even be enough water to irrigate, later on, millions of acres of new lands without carrying out further works.

It is figured that expenses will not exceed \$31 per acre, which constitutes a very favorable average in comparison with similar undertakings in recent years.

The province of Koniah and the whole of the Ottoman Empire will derive an immense profit from this undertaking, although it is probable that its advantages will not appear from the very first years. The irrigation lands will have to be settled by immigrants who would be supplied, gratuitously at first, with what they may require for their work.

The Ottoman Government will draw considerable profit from the enterprise, as, owing to the increase of traffic on the Anatolian and the Bagdad railways, at first through the transportation of materials necessary for the irrigation works and then through the increase of products from the cultivated lands (the production of wheat alone will furnish an additional 20,000 carloads per annum), the Imperial Government will have to pay less, and eventually perhaps nothing, as mileage guaranty. This considerable increase in the revenues

will also profit immensely to the Anatolian and the Bagdad railways, to the ports of Haider Pacha and Derindje, and, after the construction of the Eregli-Adana branch, to the Mersina-Adana Railway and to the port of Mersina.

[A map of the regions under discussion was forwarded by Consul Harris, and may be seen at the Bureau of Manufactures.]

MEXICO.

AVAILABILITY OF THE RIO GRANDE FOR IRRIGATION AND NAVIGATION.

Consul Clarence A. Miller, of Matamoras, reports that although the agitation for the abandonment of the Rio Grande as a navigable stream is still confined to the Texas side of the river, it presents a question of importance to both sides. He writes:

All parties concede the necessity and importance of irrigation, but while this has been successfully developed, to a certain extent, on the Texas side of the river, it has not really been commenced on the Mexican side. As the character of the land is the same on both sides, the conditions for successful irrigation are just as favorable on the Mexican as on the Texas side. The Mexican law, which prohibits foreigners from buying land within 20 leagues (about 60 miles) of the river has kept out American capital available for its development.

Whether the supply of water is and will be sufficient for both purposes is a question for engineering experts to solve. Practical men, who seem to be conversant with the entire situation, estimate that the irrigating canals, when in full operation, will consume at least one-third or one-half the water supply of the river. My personal opinion is that the river can be made navigable from its mouth to Brownsville without interfering with irrigation interests. Above Brownsville navigation would be of little profit to either country.

CANADIAN FARM ANIMALS.

DAIRY AND BEEF CATTLE—DECADENCE OF SHEEP-RAISING INDUSTRY.

Consul H. D. Van Sant, of Kingston, advises that the Canadian minister of agriculture in a recent address at the convention of the National Live Stock Association, pointed out that while the raising of first-class dairy and beef cattle had been carried on successfully and splendid breeds of horses were being raised all over Canada, the very important industry of sheep raising had been almost wholly neglected and the Canadian trade in woollen goods had suffered in consequence. The Americans were said to lead the world in the breeding of live stock and the raising of horses, and yet they were anxious to get hold of some of the best product of Canadian breeding. The speaker said the French-Canadian cow was the most profitable cow in Canada and prophesied that it would soon be known as the "greatest butter-producing machine in the world."

TRANSPORTATION.

WORLD'S STEAMSHIP LINES.

UNITED KINGDOM.

NEW QUALIFICATIONS FOR SEAMEN—RECORD OF PASSENGER TRAVEL.

Consul John L. Griffiths, of Liverpool, sends the following summary of new regulations that have been legalized for the operation of the British merchant marine:

Section 58 of the merchant shipping act of 1906 was put into operation on June 1, 1907. Under that section of the law no seaman is allowed to engage on board a British ship as an "A. B." unless he can prove three years' service before the mast, of which not more than two years' service shall have been on decked fishing vessels. Seamen who are qualified for the rating of A. B. are urged to make application either to a superintendent of a mercantile marine office in the United Kingdom or to the registrar-general of shipping and seamen, London, for certification of their title to be rated as A. B., producing at the same time their "continuous discharge books," or other satisfactory proof of their service at sea.

FOREIGNERS EMPLOYED ON BRITISH VESSELS.

Over 220,000 men are engaged on British merchant vessels, exclusive of Lascars and Asiatic seamen, who are largely employed on steamers trading to the Far East. According to a return issued by the British Government two years ago 39,000 were foreigners. It is the desire of the British community to have British ships manned by British crews, and to do this it will be necessary to train yearly a number of boys to serve in merchant vessels. A few years ago a departmental committee appointed by the board of trade investigated the question of the supply and training of boy seamen. The committee in its report stated it was desirable that merchant seamen should be more thoroughly and systematically trained, and that the scope of the employment of British subjects at sea should be extended. Referring to the advantage to be gained by the training afforded to boys by the Marine Society of England, which exists for the training and equipment of boys as seamen, the committee said:

As an object of what may be accomplished through a seagoing training ship, we desire to make special reference to the Port Jackson, which recently took 100 boys from the Warspite on a ten months' voyage to Australia and back. The arrangement for their instruction appears to have been singularly efficient, and it is satisfactory to learn that at the end of the cruise no difficulty has been experienced in obtaining employment for all of them at sea. Six of them have joined the royal navy and the remaining 94 have entered the merchant service, mostly as ordinary seamen.

The Marine Society is maintained by public subscription, and it is stated to be the desire and intention of this society to continue

annually this ocean-training scheme provided the British public is sufficiently interested in the undertaking to furnish the necessary money.

KNOWLEDGE OF ENGLISH LANGUAGE—CERTIFICATED COOKS.

A new law came into force on January 1, 1908, providing that no foreign seaman will be permitted to engage on any British ship at any port in the British Islands, or on the continent of Europe between the river Elbe and Brest, unless he possesses a sufficient knowledge of the English language to understand the necessary orders that may be given to him in the course of the performance of his duties. To meet the requirements of the new law foreign seamen who have been serving on British ships have been notified to make application to a superintendent of a mercantile marine office, or to a British consul, who, on receipt of the application, will be prepared to examine them as to their knowledge of English, and if that knowledge is sufficient, the fact will be certified on their continuous discharge books.

Every British foreign-going ship of 1,000 tons and upward gross tonnage, on and after July 1, 1908, going to sea from any place in the British Isles, or on the continent of Europe between the river Elbe and Brest inclusive, will be required, in accordance with the merchant shipping act of 1906, to carry a duly certified cook. In order to be deemed duly certified within the meaning of the section a cook must (*a*) be the holder of a certificate of competency in cooking and be able to prove one month's service at sea in some capacity, or (*b*) the holder of certificates of discharge showing at least two years' service as cook previously to June 30, 1908. The Government will approve schools of cookery for the purpose of granting certificates of competency, and schools desirous of obtaining approval must apply to the board of trade. Schools have already applied and been approved.

Such schools will be liable to inspection from time to time, and the board of trade may at any time withdraw their approval if they consider that a school has fallen below the requisite standard of efficiency. Any candidate passing a satisfactory examination conducted by an approved school of cookery will be granted a certificate of competency provided the candidate is at least 18 years of age. Seamen who have performed two years' service as cook and who are therefore duly qualified for the purposes of the law without obtaining a certificate of competency will have to produce satisfactory proof of their service. In the absence of such proof their service will not be recognized.

STEAMSHIP PASSENGER RETURNS.

The new regulations with regard to the returns to be furnished by the masters of vessels as to passengers carried, which were made by the board of trade in the merchant shipping act of 1906, have come into force. They provide that the master of every ship, whether British or foreign, which carries any passenger from a place in the United Kingdom, and is bound for any place out of Europe, and not within the Mediterranean Sea, shall at every port in the United Kingdom at which a passenger is embarked, furnish a return giving the ship's name, registered tonnage, aggregate number of superficial feet in the several compartments set apart for passengers, other than

cabin voyagers, and the number of statute adults which the ship can carry legally; while detailed information has to be supplied as to British and alien passengers, including name, occupation, and in case of adults, whether accompanied by husband or wife, or whether single.

The port at which passengers have contracted to land has also to be given. Similar information must also be furnished in regard to passengers to the United Kingdom from any place out of Europe and not within the Mediterranean Sea, the only difference being that the ports at which passengers have been landed have to be inserted, and in the case of aliens it has to be stated whether they hold through tickets, while a return has also to be made of the births and deaths on the voyage. The returns have to be prepared in duplicate, and delivered to the collector, or chief officer of customs, and the emigration officer. A third schedule must be filled up and handed to the customs officer, giving information as to passengers proceeding from the United Kingdom to any port on the continent of Europe or within the Mediterranean Sea.

CHILE.

IMPROVED STEAMSHIP FACILITIES ON SOUTH AMERICAN COAST.

Consul Alfred A. Winslow reports from Valparaiso that the Chilean Government is seriously studying the question of better and faster steamship connection with Panama, the following details showing the improved transportation facilities which will probably be afforded American exporters to Chile.

A bill has been introduced into Congress empowering the President of Chile to enter into contract with a steamship company for a period of five years for a line of steamers to make the trip within eight days, at a cost to the Government of not to exceed £20,000 (approximately \$100,000) per year. The importance of a quicker service between Valparaiso and the United States is fully understood in Chile, and it seems quite probable that something may be done by the Chilean Government sooner or later, if nothing else develops. It is not supposed that this amount will provide for more than two boats per month.

This is an indication of the trade tendencies and should be taken advantage of by the American exporter. Now is the time to get in touch with the real conditions. There is an opening here for nearly everything in the line of manufactures, as but little is manufactured in Chile.

SUGGESTIONS TO AMERICAN EXPORTERS.

The American exporter should not be too easily discouraged. It may be quite possible that the salesman may not meet with success the first trip, or for the first few months he is in the country. This may be the case often and it is not strange either when it is understood that he must compete with English and German salesmen and agents who are familiar with all the conditions and are strongly fortified. They will not give up a foot of ground unless they are compelled to do so. To accomplish this is certain to take time and money. There is no question but that it will pay well in this case, and it is the only successful way to get the trade of a part of the world that is exceedingly rich in natural sources and that is developing rapidly.

Should such a new steamship line be established, it would materially shorten the time for mail and passengers from New York to Buenos Aires and Montevideo, via the Trans-Andean Railway from Valparaiso to Buenos Aires, during six months of the year at present, and, when the Andean tunnel is completed, for the entire year. An examination of the map will reveal the fact that the above-named cities are much nearer New York via Valparaiso and Panama than via the Atlantic. Valparaiso is almost directly south of Pittsburg, and shipping need not vary much more than 500 miles from a direct southern line to reach this city.

CANADA.

SHIPBUILDERS FEEL COMPETITION OF BRITISH-BUILT VESSELS.

Consul A. G. Seyfert, of Collingwood, furnishes the following information concerning Canadian shipbuilding on the Great Lakes, and how the industry is hampered by the free admission of vessels of British registry:

There are in Canada a number of plants and yards well equipped for building steel vessels, the largest of which, and the most modern in equipment on the upper lakes, is located at Collingwood. A year ago 1,000 men were employed at this plant. During the greater part of the past winter the yard has been closed, but in the middle of March the yard was again opened and several hundred men employed. The company has just secured the contract to build a single-screw package-freight and passenger steamer at a cost of \$500,000. The classification of the steamer will be of the highest of the Great Lakes register, with a length of 365 feet and a displacement of 6,500 tons. The contract calls for the vessel to be completed by the opening of navigation in 1909. If other contemplated work is secured, the plant will be reasonably busy during the coming year.

The shipbuilding companies in Canada feel most keenly, it is claimed, the competition of British-built ships. There is a heavy duty on most of the material imported for construction work from Great Britain and the United States. The coal for construction, which is a large item, is subject to a duty of 53 cents a ton, while vessels thoroughly equipped in every particular come from the shipyards of Great Britain duty free [if registered under the British flag since 1902.—B. of M.].

Old American vessels are bought, repaired in American yards, and then brought to Canada, after having paid duty on the original cost. The Canadian government is asked to grant a bounty to the shipbuilding industries, sufficient to put them on a competing basis with British builders, and to impose on American repair work to Canadian ships a duty of 50 per cent on the cost of such repairs.

The Canadian Marine Register shows 300 old American-built steamships, 170 American sailing vessels, and 97 British-built ships. About 60,000,000 tons of products are carried eastward over the Great Lakes yearly, of which Canadian vessels carry less than 3 per cent, so it seems evident that the growth of Canadian shipbuilding and shipping has not kept pace with the general growth and progress of the country.

WEST INDIES.**INCREASED SUBSIDY BY THE UNITED KINGDOM FOR BETTER MAIL SERVICE.**

A dispatch from Liverpool, England, states that the contract between the Crown agents for the colonies and the Royal Mail Steam Packet Company for the conveyance of mails between certain colonies in the West Indies for the period of ten years has just been issued.

Under this ten-year contract the company bind themselves to provide two steamers for a fortnightly service between Barbados and British Guiana, calling at Grenada and St. Vincent on the homeward voyage, and a fortnightly service between Barbados, St. Lucia, Dominica, Montserrat, Antigua, Nevis, and St. Kitts, calling at Grenada and St. Vincent on the outward voyage.

They also guarantee that the inter-colonial steamers shall connect with the steamers of any trans-Atlantic packet service which may be maintained by the Imperial post-office, and they undertake to construct at an approximate cost of \$500,000 two inter-colonial steamers for the service, fitted with all modern improvements. The subsidy is increased from the rate of £17,500 (\$85,163) per annum to that of £25,000 (\$121,662) per annum, and will be contributed in halves by the Imperial Government and the colonies.

JAPAN.**A NEW SERVICE HAS BEEN INAUGURATED BY A FRENCH LINE.**

Consul-General Henry B. Miller, of Yokohama, reports that the French Steamship Company has inaugurated a "round the world steamship service," which he thus describes:

An arrangement has been formed with the Canadian Pacific Railway Company to transport passengers and freight on through bills of lading to interior points in Canada, the United States, and Europe. The passenger rate is \$155 gold from Yokohama to San Francisco, Seattle, or Tacoma, or below that of competing lines. The passenger accommodations for first class number about fifty.

After May 1, 1908, three large passenger steamers are to run directly from Yokohama to Vancouver on a thirteen-day schedule, with a twenty-six day schedule to Europe via the Canadian Pacific Railway. These steamers will go to Seattle, Tacoma, San Francisco, Mexican, Central and South American ports, thence via Magellan Straits, River Plata, and Brazilian ports back to Europe.

After May 1 the French Steamship Company will place two steamers on the route starting from Kobe sailing to Yokohama, Honolulu, San Francisco, Seattle, Tacoma, Vancouver, B. C., and thence back to Yokohama and Kobe. These steamers will not carry passengers.

CHINA.**NEW LINE PROVIDES FURTHER TRAVELING AND SHIPPING FACILITIES.**

Vice-Consul-General Stuart J. Fuller reports that the extension of the French line service is regarded with great interest in shipping circles at Hongkong. He gives the following details of the plans:

The steamer *Malte* of the Chargeurs Reunis or French Line passed through Hongkong the latter part of January on her voyage around

the world. This line has been running small freighters for some time, but the present vessel of 5,242 net tons is the first large one, and the first equipped to accommodate passengers as well as freight.

Four sister ships are building for the run, one of which, the *Ceylon*, is said to be almost completed. It is planned to have a ship with passenger accommodations sailing from Hongkong every forty-five days.

The ports of call are Antwerp, Dunkerque, La Pollice, Marseille, Genoa, Naples, Colombo, Singapore, and Hongkong on the Suez portion of the run. From Hongkong the ships will go to Shanghai, Chin Wan Tao, Kobe, Yokohama, Honolulu, San Francisco, Vancouver, Tacoma, Seattle, Guaymas, and Mexican coast ports, Straits of Magellan, Buenos Aires, and Montevideo, the entire voyage taking about seven months. Fares for the entire trip around the world have not yet been announced. From Hongkong to San Francisco the first-class fare is £38 (\$185).

GERMANY.

LAST YEAR'S SHIPBUILDING RECORD A LARGE ONE—PRESENT SLACKENING.

Consul-General Richard Guenther, in writing from Frankfort that during the past year the shipyards of Germany were well employed, gives the following facts:

There were built 435 steamships with a total of 311,105 gross register tonnage, and 516 sailing vessels aggregating 57,387 gross register tonnage, while 203 steamships (369,172 gross register tonnage) and 270 sailing ships (47,015 gross register tonnage) were on the stocks in course of construction at the end of 1907. Of the steamships turned out and in course of building 38 were men-of-war, having a total of 128,088 gross register tonnage.

In addition, 67 steamships (162,278 tons) and 145 sailing vessels (38,650 tons) were either built or in course of building at foreign shipyards for German account last year. As an offset to this, 112 steam and sail vessels were built in German yards during the past year for foreign countries. There were still on the stocks, at the end of December, 29 steam and sail ships (total 13,600 tonnage) which were ordered by foreign customers. The outlook for German shipbuilding interests in 1908 does not appear so promising, foreign trade and business in general taking a relatively downward course.

VENEZUELA.

AMERICAN FLAG COVERED NEARLY ALL THE SHIPPING AT MARACAIBO.

Consul E. H. Plumacher supplies the following information concerning the shipping at the Venezuelan port of Maracaibo:

During the year 1907, 54 steamships flying the American flag entered the port of Maracaibo. These vessels ply between New York, Porto Rico, Curaçoa, and Puerto Cabello, and Maracaibo. For the special service of Maracaibo the company runs three fine steamships, equipped for passenger and cargo services, and it is seldom any of these boats have a berth unoccupied. The steamers also carry the mail, and never fail to keep schedule time. No other steamships

called at Maracaibo, but 23 Danish sailing vessels, with cargoes from Hamburg, entered the port in 1907. These Danish vessels carry, as return cargoes, wood and dyestuffs. Formerly many French, Italian, and British sailing ships called at Maracaibo, but none of these appeared in 1907. A brisk trade is carried on with Curaçoa in small schooners, bringing products unloaded at that place from large European steamships, and returning to Curaçoa with Venezuelan products to be reloaded on the same steamships for Europe.

RAILWAY SYSTEMS.

SWITZERLAND.

MANAGEMENT OF THE GOVERNMENT LINES—RATES AND TRAVEL.

Consul R. E. Mansfield, writing from Lucerne, furnishes the following description of the operation of Swiss railways:

In Switzerland Government ownership of public utilities is general. Most of the railways and all of the telegraph and telephone service are owned and operated by the Federal Government. In addition to these is the parcels post, which provides facilities for transporting all classes of articles within reasonable weight at a nominal cost.

The Government ownership of railways, although not complete, will soon cover the entire system of the country. The steam railways in Switzerland represent 2,111 miles, of which 1,529 miles, or nearly three-fourths of the total, are owned and operated by the Government. The State properties include all the principal lines in the Confederation, except the St. Gotthard, which is the direct route from Lucerne to Milan, by way of lakes Lugano, Locarno, and Como. Arrangements are being made to add this important link to the chain of Government properties, but concessions having been made to Italy and Germany when the road was constructed the negotiation of treaties for the release of those concessions has delayed the acquisition of the property by the Swiss Government. The other roads under private or corporate ownership are short lines, used as branches or feeders for the main system, extending into important agricultural valleys or industrial districts.

Since the acquisition of the majority of the railways by the Government the roads have been greatly improved in their physical condition and in the service. Schedules have been adjusted and systematized, freight and passenger rates equalized and greatly reduced.

PASSENGER TRAINS.

The train service in Switzerland is generally good. A sufficient number of trains is run on all the roads to provide ample facilities for all demands of traffic. The schedules are well arranged and trains usually run on time. The employees are universally polite and attentive to passengers, and a strict enforcement of the rules governing the roads is observed. The system of forwarding luggage, which, like the railways, is under Government control, is prompt and safe. Of the hundreds of thousands of pieces transported annually few are missent and almost none are lost.

Provisions are made for first, second, and third class passengers, and the majority of trains carry cars for all the different classes.

Some of the express trains carry only first and second, and some of the through trains only first-class cars. The second-class cars are the most popular on Swiss trains, as they are quite as comfortable as the first class, the only difference being in the quality of the upholstery. The majority of the Swiss people patronize the third-class coaches, as the fares are low and the cars comfortable. The Swiss passenger coaches are divided into compartments, and the more modern in the first and second class are corridor cars. They are well lighted, ventilated, and heated, and provided with lavatories and toilet rooms.

The express trains carry dining cars, in all of which there is good service at reasonable cost. This service is also under Government control. The third-class cars are usually divided into two sections instead of compartments, with a center aisle. The seats are not upholstered, but each car is provided with ample space for luggage, good heating facilities, and a lavatory.

PASSENGER RATES.

Passenger rates on the Swiss railways are not excessively high in the first class, while the second is reasonable, and the third class low. The first-class fare is 3.22 cents per mile; the second 2.25 cents per mile, while the maximum rate for third-class is only 1.6 cents per mile. In addition to the regular tickets the railways in Switzerland have a system of "abonnements," or time tickets, which afford opportunities for exceedingly cheap travel throughout all parts of the country. They are issued in the name and must have attached a photograph of the purchaser. They are good on practically all the roads in the Confederation, a map being attached to each ticket showing the lines over which it will be accepted. The abonnements are issued for a designated period, with no restrictions for the amount of travel during the time. The time limit and cost are as follows:

	First class.	Second class.	Third class.
15 days.....	\$15.44	\$10.61	\$7.72
30 days.....	23.16	16.40	11.58
45 days.....	30.88	21.23	15.44
3 months.....	54.04	37.63	27.02
6 months.....	84.92	59.83	42.46
1 year.....	133.17	93.00	66.58

On regular return trip tickets the reduction is equal to 32 per cent.

TRAINS AND PASSENGERS.

During the year 1906, the latest available railway statistics, there were run over the Government railways in Switzerland 378,311 regular passenger trains; mixed trains carrying passengers and freight, 46,623; extra or special passenger trains, 3,946; freight trains, regular and supplemental, 154,981.

The number of passengers carried in 1906 was 64,874,109, who paid in fares \$13,511,913. The amount paid for transportation of luggage, general freight, and cargo of all kinds, was \$18,226,012, making a total income from Government railways for the year 1906 of \$31,737,925.

Of the many million passengers carried during the year and the great number of employees in all the departments of the Government

railways, the accidents numbered only 1,282; 53 passengers were killed and 1,187 injured.

Practically all the railway cars, both passenger and freight, as well as locomotives, switches, signals, and other equipment necessary to the operation of the roads in Switzerland, are built at the Government shops at Winterthur. The supply and equipment department is under the same direction as the roads.

Railways constitute a department of the Government. The management and direction is in the hands of a commission consisting of five members, which is appointed by the Federal Council for a term of three years. This directorate has absolute control of the railway business of the Republic, including the traffic management, establishing of rates, the construction, supply and equipment departments, the purchasing of all materials and supplies, construction of cars, locomotives, etc. The commission is responsible only to the Parliament. The president of the department of railways receives a salary of 18,000 francs a year, equal to \$3,474. The other members of the directorate receive an annual compensation of 15,000 francs, equivalent to \$2,895.

DIVISIONS, WAGES, STATIONS, AND EXPENDITURES.

As a means of facilitating the business the railway system of the country is divided into four sections, designated as the Basle, Lausanne, St. Gall, and Zürich districts, with subdirectorates for each. When the St. Gotthard road is added to the Government properties another division to be known as the Lucerne district will be created.

The wages paid to the employees on the Government railways are the same as those paid by the roads under private and corporate management in the country. There is apparently no dissatisfaction among the Government railway employees, and the standard maintained among the different classes compares favorably with those on private roads.

The stations as a rule are ample in proportion and equipped with all the necessary facilities for handling the passenger and freight traffic. The station offices and waiting rooms are well cared for, train sheds are large, and the trackage and switch facilities equal to or better than those found on railways operated under private ownership in most countries. The system of tickets, which gives one the option of traveling over different lines to reach a certain destination, where the difference in distance is not great, is an advantage not offered on private roads.

The law governing the Federal railways positively prohibits the possibility of political influence entering into the management. It also provides that all revenues received from the Government railways shall be expended in the improvement and maintenance of the roads. If a surplus accumulates, rates are adjusted to equalize the revenues and expenses, thereby giving the people the benefit of lower fares. This method insures the maintenance of a high standard of excellence in the service and prevents the application of the revenues of one department of the Government to the use of another.

As organized, and under the present management, the Government railways of the Swiss Confederation are successful and prosperous. The traveling public is apparently satisfied with the service, and the Government is gratified with the result.

CANADA.**TRAFFIC, RECEIPTS, AND EXPENDITURES DURING THE LAST FISCAL YEAR.**

The following additional statistical information on the railways of Canada is furnished from official returns by Consul Alfred J. Fleming, of Yarmouth:

The mileage of the railways of Canada at the close of the year ended June 30, 1907, was distributed as follows among the several provinces: Ontario, 7,637; Quebec, 3,515; Manitoba, 3,074; Saskatchewan, 2,024; New Brunswick, 1,502; British Columbia, 1,685; Nova Scotia, 1,329; Alberta, 1,323; Prince Edward Island, 267; Yukon, 96; total, 22,452 miles. With double tracks, sidings, and spurs, the mileage amounted to 27,611 miles.

The Dominion and provincial governments have aided these railroads to the amount of \$181,298,412, besides land grants as follows: Government lands, 31,762,945 acres; provincial lands, 20,420,109 acres; total, 52,183,054 acres.

Comparing the rate of capitalization, per mile, of Canadian roads with those of foreign countries, the official report gives the following results: Dominion of Canada, \$56,995; United States, \$67,936; United Kingdom, \$273,437; New South Wales, \$63,063; Victoria, \$56,113; India, \$56,796.

The traffic during the year was as follows: Passengers carried, 32,137,319; passenger earnings, \$45,730,652; freight carried, 63,866,135 tons; freight earnings, \$95,738,079; operating expenses, \$103,748,672.

There are ten railways in Nova Scotia, counting the Intercolonial, a government built and operated road, which has 485 miles in the province. The other nine roads have a mileage of only 844 miles, and their total capital is estimated at \$24,886,150. The railways of Nova Scotia, other than the Dominion and Atlantic and the Halifax Southwestern, both having a mileage of 369 miles, are primarily coal roads, and passengers and freight are only incidentals.

ITALY.**MILAN MUNICIPAL STATION—RAILWAY POWER AND NEW LINES.**

Consul James E. Dunning, of Milan, forwards the following report made by Clerk Siersdorfer, of the consulate, relative to the establishment of power stations in Italy:

The communal council of Milan, in accepting the conditions of the committee appointed for the construction of a hydro-electric installation in the Alpine hills north of the city, which provides for a generating station of sufficient power to meet the probable demands for current, has authorized the requisite outlay for the work, \$2,546,640, to be raised by a loan guaranteed by the council.

It is announced that a syndicate has been formed in Rome to provide a thermoelectric generating station at Treni, in Apulia, to produce current to work three railways, viz, from Treni to Corato, from Treni to Andria, from Fernandino to Trinitanople. The station will also supply current to surrounding towns.

Important steps have been taken for the building of railways in North Italy. (1) The Lake Garda line, to run from Riva di Trento,

along Lake Garda, to Verona, 48½ miles, standard gage, electric traction, and (2) a network of lines by which direct access from the province of Belluno, via Cortina, to the Austrian State railways will be secured, the first line, as that of most pressing need, to be from the city of Belluno via Bribiano to Agordo.

CARRIAGES IN MESOPOTAMIA.

AMERICAN VEHICLES MUCH NEEDED IN THE BAGDAD REGION.

Since the publication in the Consular and Trade Reports of his request for catalogues of various manufactured goods Consul William C. Magelssen, of Bagdad, has received a number of inquiries from American carriage builders relative to trade along this line in Mesopotamia. Mr. Magelssen therefore submits the following observations, gained while traveling in that part of Asiatic Turkey:

Inasmuch as Bagdad is the most important trade center in the Mesopotamian Valley there is naturally at all times a large number of merchants and traders going between this city and the regions to the north, to Persia and to the districts lying to the southwest. However, the Mohammedan pilgrims who come from many lands to worship in the holy cities of Kerbela and Nejef make up the great majority of visitors to Bagdad, and their number is said to be nearly 80,000 yearly. Pilgrims from India reach Bagdad by river steamer from Bassora and proceed in carriages to Kerbela and Nejef, while those who arrive from South Russia and Persia come on horseback, in sedan chairs, in double baskets fastened to a mule's back, or on foot.

No carriage roads exist in Persia in the districts through which they must come, and they can not avail themselves of carriage travel before the Turkish frontier is reached at Khanikin. Rather than dispose of the animals that have carried them hundreds of miles they continue their journey in slow stages down through Mesopotamia until the shrines have been reached, and return in the same manner. The well-to-do class of pilgrims sometimes engage carriages at Khanikin, but their number is very limited, and carriage traffic on the Bagdad-Khanikin road is never heavy.

A MUCH-TRAVELED HIGHWAY.

The road between Khanikin and Nejef through Bagdad is undoubtedly the busiest in the Turkish Empire. One meets in a day's travel dozens of caravans, each numbering from 75 to 150 or more camels, led by a gaudily bedecked animal carrying on its back an embroidered flag of many colors. There are hundreds of pack mules and tiny, quick-stepping donkeys loaded down with merchandise of diverse varieties. The latter beast of burden is really the Mesopotamian "express and fast mail." The wagons are of one kind—a clumsily built creation of the wagonette pattern. They are manufactured in Bagdad and sold at about \$100, but are both heavy and uncomfortable. The top is built of wood and the sides have wooden shutters in place of curtains. They have seating capacity for 8 passengers, but frequently as many as 12 persons will crowd into one carriage; the seats have no cushions, which is well from a sanitary point of view.

The rear of the carriages is built higher than the front and it is difficult to enter without assistance. I found exit through a window to be the most convenient, as the top and hub of wheel could then be stepped on. The running gears of the carriages bear no sign of paint, but all have curious objects painted on the door and sometimes inside to keep off the "evil eye." The hubs of these conveyances seem to contract, while the axles appear to lengthen, and a drive in a Mesopotamian carriage is apt to produce a feeling akin to seasickness. It is disagreeable, as the swaying motion keeps one in constant dread that the wheels are slipping off.

THE TRIP TO NEJEF.

The journey from Bagdad to Nejef, a distance of 105 miles, is accomplished in two days. The start is made from Bagdad at 4 o'clock in the morning, the carriage being drawn by four horses or mules, and two changes are made before the Euphrates River is reached. There is no bridge there sufficiently strong to permit a carriage to pass over and passengers must cross on foot to the other side, where another vehicle is entered and another lot of animals hitched on. These latter pull the carriage through to Kerbela, where the night is spent, and at 4 the next morning another carriage company takes the weary traveler in hand, and after making four changes of animals manages to deposit him in Nejef in the early afternoon. It will be seen that in order to make the round trip a considerable number of horses and mules must be employed. All carriages are drawn by two teams.

Transportation rates between Bagdad and Kerbela vary between 20 piasters (\$0.88) and 60 piasters (\$2.64) per seat, according to season, while between Kerbela and Nejef they are inclined to be higher.

The horses employed on these carriages are of the poorest, being purchased at not exceeding \$20. The mules are of a better class and cost as much as \$80 per head. Their upkeep is said to average about 20 cents per day. The driver provides his own license at a cost of about 45 cents, good for a year, and receives a monthly salary equal to \$6.80; he employs an assistant who shares his wages.

The maintenance of the carriage service would appear to be expensive, for the horses are driven at breakneck speed and have little time for rest, as they return the following day. Although the animals are changed, the harness is not, and I have seen a small horse put into a big mule's collar and a big mule placed in the harness of a small horse; the results are obvious. The carriages are constructed of cheap material and can not last long, even on the level and rockless Mesopotamian country.

CARRIAGE LINES TO HILLAH, TO MUZZEM, AND IN BAGDAD.

To Hillah, near ancient Babylon, carriages to the number of twelve, of the same class as the aforementioned, run every day, and fares vary according to season. Hillah is reached in twelve hours. Another line runs to Samarra; the distance is covered in ten hours, with but one change of animals. In Samarra lie buried two Mohammedan martyrs and, as large numbers of pilgrims journey to their tombs, traffic on this road is considerable.

There is no regular carriage service to Khanikin, but it is always possible to engage vehicles for the trip. Near the Persian frontier

the country is hilly and rough and it is preferable to travel on horse-back.

About forty carriages are in daily operation between Bagdad and Muazzem, a suburb. The trip is made in half an hour and a charge equal to 25 cents is made. The carriages are mostly old landaus, of Bombay and Aleppo construction, and it is a marvel that they manage to carry the number of passengers who manage to crowd into them.

In the city of Bagdad about twenty-five carriages are in operation, and the number is gradually increasing. These are of Bombay and Aleppo manufacture, while an occasional European victoria is to be seen. There is no established tariff and a drive through the streets of the "fairy-land city on the Tigris" is likely to prove an expensive luxury.

OVERCOMING OBJECTIONS TO AMERICAN VEHICLES.

A good market can be created here for American carriages if a proper introduction is made. I have shown catalogues of well-known American carriage builders to local parties and they all agree that the prices quoted are cheap and attractive, but they object to the light construction of the carriages and refuse to believe that they are suitable for heavy traffic. That American-built carriages are well suited for traffic in this part of the world has been fully established in Palestine, where they are successfully and regularly run between Haifa and the Sea of Gallilee. There the country is hilly and rough. The drivers have told me that they have experimented with many kinds of carriages and find the American to be the best. The life of the local horse could be considerably lengthened if lighter carriages were introduced here, the owners would benefit by the splendid construction and wearing properties of the American-made carriage, and surely the travelers would appreciate the change.

One of the veteran American carriage manufacturers wrote some time ago that in the early stages the growth in the export business in carriages was slow, and that it took pluck and patience to persuade foreign buyers to accept the light-weight construction of the running gears of our vehicles, and that on account of their lightness the name of "spider" was given them, and that this name still clings to our carriages in many foreign countries. The same manufacturer writes of the British market as follows:

The pioneers in introducing American-made vehicles into England found it a severe and difficult task. The Britishers would hardly take time to look at the "spiders" or the light-constructed rolling stock made in America, except to view them as curiosities, and many persons calling at salesrooms in the West End of London were actually afraid to get into the buggies as they stood perfectly still and without horses. But after a long and hard fight a few venturesome people were induced to take the buggies out on the roads and put them into use. From this on the business in American-made vehicles in the British Isles has developed. Our English experiences in the introduction of American-made carriages were reproduced in all countries where they are now used.

So it will be in Mesopotamia. [American manufacturers are invited by the consul to correspond with a number of Bagdad firms whom he names, a list of which may be secured from the Bureau of Manufactures.]

ROADS IN SWITZERLAND.

FINANCIAL MEASURES BY WHICH GOOD HIGHWAYS ARE SECURED.

Vice-Consul Leo J. Frankenthal, of Berne, makes the following report on the cost of road-making in Switzerland:

There are no statistics covering the total expenditures of all Switzerland for the building and maintenance of roads, as neither the Swiss Federal statistical office nor individual Swiss economists have, up to date, been able to devote the length of time that would be required for the preparation of such figures, culled from the reports of the twenty-five cantons and half cantons and the two thousand odd *Gemeinden*. Varying administrative methods and deficiency of material, particularly with regard to the *Gemeinden*, add greatly to the difficulty of a systematic presentation of the subject.

The constitution of Switzerland gives the Federal Government the right to exercise general oversight over such roads and bridges in the maintenance of which it is interested. There is, however, no Federal road legislation, and the building and maintenance of roads is a matter of cantonal supervision. The outlay for the building and maintenance of roads is met as follows:

SUBVENTIONS AND INDEMNITIES.

First, by subventions of the Federal Government granted to the cantons upon petition of the interested canton, and after passage by the Swiss national assembly (Congress). For the period 1894–1905 the sum of such Federal subventions reach 4,730,000 francs, of which over 2,400,000 francs was paid to the Canton Uri (franc=19.3 cents).

Second, by the annual indemnity to certain cantons provided by paragraph 3 of article 30 of the Swiss Federal constitution, which reads as follows:

By exception, and by reason of their international Alpine roads, the cantons Uri, Graubünden, Tessin, and Wallis receive an annual indemnity, which, in consideration of all the circumstances, is fixed in francs as follows: Uri, 80,000; Graubünden, 200,000; Tessin, 200,000, and Wallis, 50,000. The sums due these cantons shall be retained by the Federal Government if the Alpine roads mentioned are not kept by them in suitable condition.

This yearly indemnity is, of course, paid without regard to further subventions which may be allowed by congress, as mentioned in the first statement.

Third, by the outlay of the individual cantons for the building and maintenance of cantonal roads, and the proportion of the expenditures for *Gemeinde* roads and streets that may be fixed by cantonal law. The Canton Berne, for instance, pays from 25 to 70 per cent of the cost of *Gemeinde* roads, according to the importance of the road and the financial conditions of the *Gemeinde*. Zürich provides three classes of roads; those of the second and third class must be built and corrected by the *Gemeinden*, but the canton participates in the expense of second-class roads from 20 to 50 per cent, the proportion to be ascertained by the cantonal council in consideration of the importance of the road and the financial standing of the *Gemeinde*, as in Berne. For third-class roads, up to 30 per cent is paid for erection by the canton itself. The maintenance of first and second class roads is cantonal.

LARGE ORIGINAL OUTLAY.

Graubünden's expenditures for roads have reached large sums, and the yearly budget of the canton provides a sum of 120,000 francs for building and 43,000 francs for the maintenance of Gemeinde roads, as well as 249,700 francs for roads of commercial importance; also 35,000 francs for repairs. It is interesting to note that a large proportion of the public debt of this canton was due to loans for the purpose of its "road account." They were 880,000 francs in 1825 for the Bernhard road, 4,598,000 francs in 1865, 5,038,000 francs in 1872, 6,802,000 francs in 1877, 6,575,000 francs in 1882, and 6,300,000 francs in 1885. All these loans have since been amortised. The Canton Tessin gives no financial aid to the Gemeinden for roads.

It may be estimated roughly that the average expenditures of the cantons for roads, maintenance, etc., reaches one-sixth or one-seventh of their total expenses, and as the total expenditures of all the cantons was 133,000,000 francs in 1904 and 130,000,000 francs in 1903, their outlay for the roads may be fixed approximately at from 17,000,000 to 20,000,000 francs.

Fourth, by the outlay of the Gemeinden for local streets and roads, representing purely local expenses, aided by their quota from the canton, as explained in the third statement. Data collected in several cantons show the outlay for Gemeinde roads and corrections of same to vary from 9 per cent of the total Gemeinde expenses in Neuchâtel Gemeinde to 20 per cent in Tessin and Wallis, 24 in Waadt, and 30 in Basel. Figures can not be given.

TRAMWAYS IN SHANGHAI.
NOVEL FEATURES IN THE RUNNING OF THE CARS.

Consul Wilbur Gracey, of Tsingtau, transmits an article from a local newspaper in China relative to the completion of a tramway in Shanghai, from which the following extracts are taken:

The construction of the Shanghai tramways has been practically completed. The cars for the service have all arrived in Shanghai and most of them have been put together. All that is now awaited is the current to supply the motive power for the trams. Two or three weeks must then elapse before the service is inaugurated, as, in order to minimize the risks of accident, the company desires to make the native drivers thoroughly efficient before the trams are allowed to traverse the busy streets of the settlement. The current, it is expected, will be switched on in about a fortnight, and the motor drivers will be trained up and down a convenient thoroughfare for the purpose. Upward of 23 miles of track have been laid, and there remains little to be done but to complete the overhead cable work on two bridges, both of which are nearing completion.

The tram routes have been divided into 11 sections over which the passenger is entitled to travel. The sections on each route are posted in conspicuous places in each car, and printed in English and Chinese. The first-class fare for one section is 2½ cents, for two sections 5 cents, and so on.

The drivers and conductors will be Chinese, but cars will be visited by foreign inspectors at least twice on each journey. The terms of the concession do not allow any exterior disfigurement by advertisements. Each car is divided into two compartments, which seat 12 first and 20 second class passengers, respectively. The seats in the first-class compartment are covered with rattan; those in the second class are of wood.

The cars are lighted by electricity, and notices, in English, French, and Chinese, warn passengers against smoking, spitting, or bringing dogs on board.

LAWS AND ECONOMICS.

COST OF LIVING.

CHINA.

LARGE ADVANCE IN HOUSEHOLD AND GENERAL EXPENSES.

Consul Wilbur T. Gracey, of Tsingtau, China, transmits the following report relative to the increased cost of living in the Far East:

The cost of living in China has increased considerably during the past few years, and the increased price of provisions, rents, and other current expenses are becoming a continual subject for newspaper discussion.

Ten years ago it was possible to secure in Tientsin or Shanghai a good and commodious residence for \$35 to \$40 gold per month, and a luxurious building for \$60, but at the present time the minimum appears to be the latter figure and houses which ten years ago were renting for \$35 now bring double that amount. A seven-room house in a row, without garden, rents for about \$60, while a detached house with even a small garden can not be obtained for less than \$75.

In Tsingtau rentals are somewhat higher, averaging \$70 for a seven or eight room house and running to \$150 a month for an unpretentious villa (with a small garden) containing probably ten or twelve rooms.

Hongkong rentals are about the same as Shanghai, but vary considerably according to the situation, those at the Peak (a mountain resort above the city) commanding about 50 per cent more than houses situated on the lower level.

SERVANTS' WAGES—PRICE OF COMMODITIES.

Ten years ago it was possible to employ excellent "boys" at \$3.50 to \$5 gold per month, cooks from \$4.50 to \$6, and general house coolies for \$2.50 or \$3. Jinrikisha coolies could be secured for about the same price as house coolies and would work as indoor servants when they were not pulling the jinrikisha. At the present time in Shanghai, Hongkong, and Tientsin wages are \$6 to \$10 gold per month for boys, while in some cases they demand even higher wages; \$6 to \$7.50 gold for cooks, \$4 to \$5 for coolies. Outdoor and indoor servants now will not exchange duties, which necessitates an extra man for those who keep their own jinrikisha.

In Tsingtau wages are still higher than in Shanghai or other places in China, and are 100 to 150 per cent more than in other places in Shantung province. Boys here receive \$13 gold a month, cooks \$10 to \$15, coolies \$5 to \$6, children's Chinese nurses demand \$15 a month and their food, while in other parts of China the latter receive \$3.50 to \$5 gold per month, or possibly at the highest \$8, and procure their own food.

The price of all household commodities in Shanghai, Hongkong, and Tientsin has increased 30 to 40 per cent and meats even higher.

When the price of silver rose some two years ago, the price of tinned goods was advanced, as was also the price of other commodities, but with the decline of silver there is no compensating reduction in the prices of articles of consumption. It is impossible for persons living in America to realize the great variation that is possible in the buying power of money where it is always on a fluctuating basis. A person who six or eight years ago received a salary of \$3,000 per annum, equal to about \$7,000 in local currency, now finds that his \$3,000 only brings him about \$5,500 local currency, while the price of everything has increased enormously.

HIGH BUILDING COST.

A Tientsin newspaper, commenting on the excessive cost of building, says:

One of the imperative needs of the community at present is cheaper houses. With a cheap roof over his head the man of limited means may cut his coat to suit his cloth, but a costly house entails expenses over which he finds it difficult to keep control, and there is no question that Tientsin house rents are extremely high. The tendency of landowners has been to build large and expensive houses, quite regardless of the general tendency of the times, and each new building constructed appears to be designed solely with an eye to the future greatness of the port and not to meet immediate needs.

This tendency to build expensive houses is also seen at Shanghai and other China ports. There is continual demand for small houses in Shanghai, with only houses in rows available. There appears to be a good opportunity to build smaller and cheaper villas in the suburbs, which will be easily reached by the new tram system.

The cost of constructing houses in China seems to be excessive, notwithstanding the cheap labor available. Almost all houses are built of brick with tile roofs, and it appears probable that reenforced concrete buildings could be erected in Shanghai much more cheaply, with perhaps more stability, and be better able to withstand the exigencies of the climate.

BRITISH INDIA.

RISE IN PRICES OF PROVISIONS AND RENTS IN CALCUTTA.

Consul-General William H. Michael makes further reference to the rise in prices of foodstuffs and the increased cost of living in Calcutta within the last two years:

The following figures have been furnished for publication by the Royal Exchange of this city: Beef has gone up $33\frac{1}{2}$ and mutton 100 per cent, owing to the price of grain. Flour has advanced 20, butter 25, eggs 15, vegetables 25, coal and coke 28, and milk 20 per cent. These figures are authenticated by the Great Eastern Hotel Company, which not only controls one of the largest hotels in the city, but also conducts a large commercial establishment which includes a grocery and provision department. The correspondence between the Great Eastern Hotel Company and the Royal Exchange elicited the above figures, and also the fact that prices of foodstuffs are advancing and will be necessarily higher by at least 10 per cent within three months. The correspondence also brought out the fact that rents had advanced from 25 to 30 per cent within the same period in question, and that in consequence persons on salaries find themselves unable to save any part of their wage unless it be a large one, and

then only by the strictest economy. The government is considering a plan of building cottages on land belonging to it and renting them to government employees in the civil service at nominal prices in order to help them to meet the increased cost of living, both here and in Simla, the summer capital.

The prices of dry goods and notions, drugs and medicines, furniture and articles used in housekeeping, are all enormously high. For example, a bottle of witch-hazel extract, the regular price of which in the United States is 50 cents, costs 90 cents in Calcutta. A 15-cent American toothbrush costs 33 cents here. A prescription for which an American pharmacy would charge 40 cents, costs 66 cents in Calcutta; this is about the relative cost of drugs and medicines in the two countries. The ratio is about the same in respect to dry goods and notions. Everything is high except labor. The prices of rice, paddy, and food grains have advanced on an average of 30 per cent in the last two years, and the poorer classes find it hard to make their small incomes meet their actual necessities. Those who find employment in the mills, factories, and on the railways are better off than any other class of laborers. The masses of laborers who depend on jobs in the cities and towns, and the field laborers, are the ones who suffer most on account of the rise in the prices of paddy and rice and food grains.

PATENTS AND TRADE-MARKS.

JAPAN.

PROTECTION FOR PATENTS AND TRADE-MARKS OF GOODS TO BE EXHIBITED.

Ambassador Thomas J. O'Brien, of Tokyo, transmits an extract from a Yokohama newspaper containing a reply from Viscount Kaneho, director of the exhibition executive, to a communication from the Yokohama Foreign Board of Trade relative to the protection of inventions, trade-marks, etc., of articles to be exhibited at the world's fair in Japan in 1912. The director writes:

According to the provisions of the present patent law, models of utility law, designs law, and trade-marks law, when notice is given to the patent office before installing such articles in the exhibition, if application for patent or registration has been made within six months from the day of receipt of said articles at the exhibition, such application shall have the same validity as if it had been filed on the same day as the original notice. From this it will be seen that there will be no danger for any invention installed in the exhibition to be regarded as "publicly known," which on that account will properly secure the rights of the inventor, while with regard to designs, models of utility, and trade-marks, after one has given notice concerning them to the patent office, as aforesaid, he shall enjoy a prior right to them. So that by enforcement of these laws we feel a proper protection for foreign exhibits is already assured. But in order to render the rights of foreign exhibitors more secure, and also to make it easier for them to send articles for exhibition, the Imperial Government has already decided to introduce in the present session of the Diet a bill for that purpose, etc.

AUSTRIA-HUNGARY.

NEW REGULATIONS BETWEEN DUAL MONARCHY AFFECT FOREIGNERS.

The Weekly Bulletin states that the new treaty of commerce entered into between Austria and Hungary on October 8 last year introduces certain new principles into the trade-mark regulations of those coun-

tries, especially Hungary. In a recent announcement the Hungarian patent office states that foreign subjects can now register their trade-marks at will either in Hungary or in Austria. It is usually in the interest of the owner to register in both countries at the same time.

The office of registration in Hungary is the chamber of commerce and industry at Budapest. Foreigners are, however, required to designate upon the deposit of a trade-mark the name of the representative duly interested; who must be domiciled in Hungary, failing which the registration of the mark will be refused. In case of litigation the Hungarian authorities are the only competent judges. If an Austrian subject who has deposited his trade-mark in Hungary considers his rights injured by an Austrian mark, he must commence an action before the Hungarian authorities, and need not necessarily appeal to the Austrian authorities if his interests are limited to Hungarian territory. The protection of foreign trade-marks deposited in Hungary is also valid in Bosnia and Herzegovina.

PERU.

REGISTRATION OF TRADE-MARKS AND TRADE NAMES.

Consul-General Samuel M. Taylor, of Callao, calls attention in the following report to the need of registering trade-marks in Peru:

The Peruvian law permits the registration of any trade-mark or trade name not hitherto registered in Peru. The effect of this is that any person can register a mark or name that he has no proprietary interest in, to the exclusion of the real owner, provided he is first in making application. Having registered he may manufacture a spurious article under this mark or name, while the genuine article can not be introduced at all; or he may compel the rightful owner to purchase his registered rights at an excessive price. Registration is an easy matter and should not be neglected.

VITAL STATISTICS.

GERMANY.

CITY POPULATION GROWING AT THE EXPENSE OF THE RURAL.

Consul George Nicolas Ifft contributes from Annaberg the following report on the rapid urban concentration of the German population:

The rapid transformation of Germany from a country where the rural village was for centuries the principal factor, into one in which the city population is very largely in the majority, is causing both economists and statesmen serious thought. To-day attention is frequently called to the necessity of administrative reforms, due to the fact that in many sections of the Empire the rural population is becoming very small, and that practically everywhere the cities contain not only the larger part of the population, but control the bulk of the wealth as well.

At the founding of the German Empire, in 1871, the rural communities (those with less than 2,000 population) contained 64 per cent of the population of the Empire. In 1905 the rural population was only 42½ per cent of the whole. In some sections, such as the Rhine-

land, Westphalia, Oldenburg, and the Kingdom of Saxony, the rural character of the population has nearly disappeared, the per cent of the rural populations in these sections being only 23, 23.5, 24.9, and 28.8 per cent, respectively, of the whole population.

SAXONY HAS THE DENSEST POPULATION.

In the Kingdom of Saxony the city population has increased from 1,265,057 in 1871 to 3,211,408 in 1905, while the rural population, during the same period, has increased only from 1,291,187 to 1,297,193. The strictly farm villages of from 100 to 1,000 population show actual decreases of from 7 to 9 per cent for the same period. Nearly one-third of the population of the Kingdom is found in the five large cities of Dresden, Leipzig, Chemnitz, Plauen, and Zwickau, and more than half the population in the cities of 10,000 or more. In many of the suburbs of the larger cities, once purely village communities, but now swallowed up by the cities, the increase in the population for the five years from 1900 to 1905 was almost phenomenal, averaging from 75 to 80 per cent, and in some instances running as high as 200 per cent.

Saxony is the most densely populated of the German States. In 1871 it had a population of 170.5 per square kilometer (1 square kilometer=0.386 square miles), and this at the taking of the last census in 1905, had increased to 300.7 per square kilometer. The populations of the three large cities, Leipzig, Dresden, and Chemnitz, were, respectively, 8,830, 7,659, and 6,149 per square kilometer.

Next to Saxony, the most densely populated parts of the German Empire are the Rhine Province of Prussia, with 238 inhabitants per square kilometer, and the Principality of Reuss the Elder, with 223 per square kilometer. The average for the entire Empire is 112 per square kilometer.

FRANCE.

DECREASING NUMBER OF CHILDREN IN FRENCH FAMILIES.

The following data, taken by Consul Chapman Coleman, of Roubaix, from the latest official statistics of the population of France, contains some supplementary information to the recent report on the same subject from Consul-General Mason:

According to these statistics the total population of France (in Europe) is 38,350,788. The female sex exceeds the masculine in number, the figures being, respectively, 19,533,899 and 18,816,889. On the other hand, an excess in the number of the unmarried is shown on the masculine side, the respective figures being 9,917,178 and 9,114,356. There are 2,384,897 widows and divorced women, as against 1,005,884 widowers and divorced men.

The number of French families is 9,781,117, of which 1,314,773 are without children; 2,249,337 have but 1 child; 2,018,665 have 2; 1,246,264 have 3; 748,841 have 4; 429,799 have 5; 248,159 have 6; 138,769 have 7; 71,841 have 8; and 33,917 have 9 children. These figures represent, in a rapidly decreasing proportion, the number of families having a larger number of children. Twenty-four families are recorded as possessing 17 and 34 as possessing 18 children.

GOVERNMENT REVENUES.**GERMANY.****INCOME DERIVED FROM GAME LICENSES, GAME, AND GAME PRESERVES.**

In submitting the following statistics concerning the community and national income derived from game and game preserves, Consul George Nicolas Ifft, of Annaberg, reports that the laws and ethics of the chase, as well as the best methods of preserving game are important parts of the curriculum of every forestry school and academy in the Empire:

Recent statistics, gathered and compiled from the several German States and other official sources, give an interesting view of the chase as a national asset. There are issued every year in Germany 360,000 annual hunting permits; 180,000 permits for shorter periods, and 60,000 free permits to gamekeepers, foresters, etc. This means that 600,000 men—one in every hundred of the population—go hunting occasionally. While the price of hunting permits in the different German States varies from \$1.50 to \$6.25, the average is about \$3.75. The German devotees of the chase thus pay, in round figures, \$1,500,000 annually into the State treasuries for hunting licenses.

The annual "kill" is, approximately, 55,000,000 pounds, of which 44,000,000 pounds are game, with a market value of \$6,500,000. Most of this is venison, wild boar, rabbit, grouse, quail, etc. These are large figures, but considered in connection with the fact that the annual consumption of meat by the German people is 7,700,000,000 pounds, the product of the chase becomes an insignificant factor in the meat supply of the nation.

GAME PRESERVE LEASES AND INCIDENTAL INTERESTS.

The money paid for hunting permits and the cash value of the game killed are, however, not the largest item when the chase is viewed from the economic standpoint. The sum annually paid for game preserve leases is still larger. The entire area of the Empire is more or less a game preserve, for the privilege of shooting over some part of which some one is paying an annual rental—it may be in State, city, or community forest preserve, where sometimes larger game is found, or only over the farms which surround every village and offer nothing better than rabbits and quail.

The average price for yearly leases of game preserves is about 8 cents per acre, and the 135,000,000 acres of German area thus bring in from this source more than \$10,000,000 per year. The greater part of this sum is paid directly into the community treasuries, and is thence, directly or indirectly, distributed for the benefit of the people interested.

Any estimate of the economic value of the chase would be incomplete which, in addition to the items of direct income mentioned, did not take into account the value of the incidental interests, such as the manufacture of arms and ammunition and other hunting paraphernalia, game bags, hunting outfits, etc., for it is the fashion here to hunt in uniform—i. e., hunting jacket, jaeger hat, leggings, game bag, and belt. Considering these incidentals, it is estimated that the

chase means annually the distribution of about \$32,500,000, more or less, directly among all the people of Germany.

ITALY.

TAXATION OF PUMICE-STONE INDUSTRY ON LIPARI ISLAND.

Consul-General Hector de Castro, of Rome, furnishes the following translation of an Italian law of January 5, 1908:

Article 1.—The municipality of Lipari may collect the following taxes upon pumice stone quarried on that island: (a) 2 lire (38.6 cents) per 100 kilos (220 pounds) of pumice stone and lump pumice stone; (b) .9 lira (17.3 cents) per 100 kilos of pebble pumice stone, small pieces; (c) .7 lira (13.5 cents) per 100 kilos of ground pumice stone; (d) .55 lira (10.6 cents) per 100 kilos of brick pumice stone. The tax shall be collected either at the stores or at the time of embarkation.

Article 2.—Besides the above tax the municipality may establish a monthly license tax for quarrying to be applied to each single quarrier. Said tax shall not exceed for each quarry 30 lire (\$5.79) per month, or to be less than one lira per month (19.3 cents) according to the importance of the quarry.

Article 3.—The municipality of Lipari must see to it that all of the workmen employed in the pumice quarries are insured against injury while at work. The municipality must pay the premiums upon said insurance.

Article 4.—The municipality of Lipari must appoint a technical manager whose duties shall be to regulate the working of the quarries and insure the safety of the workmen.

FOREIGN BANKS.

GERMANY.

GERMAN SUPREME COURT DECISION MAKES BANKERS LIABLE FOR ADVICE.

Consul-General Richard Guenther, of Frankfort, advises that the supreme court of the Empire, the last legal resort in Germany, has, in several cases, fixed the responsibility of bankers when advising investments to their clients. He cites the following case in point:

One of the latest decisions of this kind was rendered against a bank which, upon receiving an order from a customer to purchase 30,000 marks (mark=23.8 cents) of a certain class of mortgage bonds, instead of executing the order wrote to the customer advising him to buy instead the mortgage bonds of another company, stating that the latter were equally safe and possessed some advantages over those ordered. The customer thereupon changed the order, according to the bank's advice. When the company issuing the purchased bonds failed he brought suit against the bank for the recovery of the money invested.

The court, in its decision against the bank, held: "The bank has not done its duty in taking care of its customer's interests when it recommended the purchased bonds to be as safe as those originally ordered to be purchased, because the bank should have known that the latter had the quality of legal or trust investment funds for widows and orphans, wards, etc.," whereas the bonds advised and bought for the customer lacked that important qualification.

The bank was not asked for its advice by the customer, but obtruded it. It was also proved that the bank received a much higher commission for the sale of the bonds purchased than the percentage that would have been obtained in supplying the bonds originally ordered.

MOROCCO.

BRANCHES OF THE BANK OF SPAIN FOR NORTHERN AFRICA.

Consul-General Benjamin H. Ridgely, writing from Barcelona, gives the following account of the initial steps being taken for opening a Spanish bank in Morocco:

The establishment of a branch of the Bank of Spain in the north of Africa has long been desired in the interest of Spanish commerce, and has been petitioned for by merchants, newspapers, members of municipal corporations, and others for some time past. It is now believed that this long-felt want will soon be provided for, at least in part, as an official of the Bank of Spain is now at Tangier to arrange for the installation of a branch of the national bank there, and this will, it is hoped, be the precursor of the establishment of other much-needed branch banks at Ceuta and Melilla.

The installation of this branch will be of great advantage to Spanish interests and will be of utility in preventing the total disappearance of Spanish silver coin, which formerly was of almost exclusive use in North Africa and by which markets were regulated, but which is gradually falling into disuse. It is believed to be of great importance to Spain that her silver money should be employed in Morocco as the principal medium in commercial transactions, as Morocco will probably always present a wide field for its circulation.

As for Ceuta and Melilla, it would probably be a great advantage to possess banks at these centers, as lately an unexpected commercial development has taken place there. Furthermore, in view of the numerous military barracks established there and the works of construction of the three ports which are going on, it is believed that these establishments would meet with success.

BERLIN INCOMES.

GERMAN CAPITAL STATISTICS SHOWING RECEIPTS OF INDIVIDUALS.

Consul George Nicolas Ifft, of Annaberg, states that the official summary of the tax commissioners of the city of Berlin for the year 1906, which has just been published, presents a mass of figures showing conditions of living in the second city of Continental Europe and the fourth largest city in the world. The consul compiles the figures in regard to the income-tax assessments:

The population of Berlin in 1906 is given as 2,040,148, and of this number the tax commissioners, after deducting nontaxable children under 14 years of age, the military, and others by law exempted, found that there were in round figures 1,125,000 persons (heads of households and self-supporting individuals) subject to assessment for income tax. Nearly half this number, however, was found to have incomes of less than \$214 per year, and therefore, in Berlin, are exempt from income tax. (The minimum varies, in some German States being as low as \$100.)

On the income-tax rolls there were 600,899 names. Of these, 315,610 had incomes of from \$214 to \$286 per year, and 226,678 had incomes of from \$286 to \$714 per year. Thus it is seen that of the 600,899 per-

sons assessed for income tax 542,288 had incomes of less than \$714 per year, and only 58,611 persons were found with incomes greater than that amount. Above that figure the classes dwindle rapidly. There were 46,181 persons with incomes from \$714 to \$2,380; 10,800 with incomes from \$2,380 to \$11,900; 1,103 with incomes from \$11,900 to \$23,800; 470 with incomes from \$23,800 to \$119,000; 39 with incomes from \$119,000 to \$238,000; 4 with incomes from \$238,000 to \$476,000; 2 with incomes from \$476,000 to \$714,000, and 2 with incomes over \$714,000 per year.

This means that of the 1,125,000 persons in Berlin who support themselves or themselves and families only 58,611, or less than 5½ per cent, have incomes of \$714 or more per year. About 1,066,000 have less than that amount, and more than half of these even less than \$214. per year.

I do not believe that any portion of the income of the man who works for his money often escapes assessment for income tax. The main servant, who earns \$5 to \$7 per month, has what her board and lodging would amount to charged against her in computing her income, and even the probable "tips" of the waiter are estimated for the same purpose.

INSURANCE IN BADEN.

INCREASE IN THE NUMBER OF PRIVATE INSURANCE COMPANIES.

Consul E. Theophilus Liefeld, of Freiburg, furnishes the following information relative to private insurance companies of various kinds in the Grand Duchy of Baden, as published in a local newspaper:

On January 1, 1908, there were 914 private insurance concerns in the Grand Duchy of Baden, being 82 more than on the same day a year previous. The following statement shows wherein this increase has occurred:

Companies.	1906.	1907.	Companies.	1906.	1907.
Death and annuity.....	102	131	Insurance concerns for the protection of—Continued.		
Sick benefit with guaranty of payment at death.....	98	131	Horses.....	23	24
Sick benefit without guaranty of payment at death.....	45	60	Animals to be used for slaughter.....	5	5
Insurance concerns for the protection of—			Fire insurance.....	2	2
Animals.....	5	5	Plate-glass insurance.....	3	3
Cattle only.....	543	543	Total.....	832	914
Goats.....	6	10			

With the exception of one plate glass insurance company, which is a strictly private undertaking, all these companies are based on the mutual insurance plan. Of these, 127 have, up to the present time, complied with the requirements as laid down by the ministry of the interior for mutual insurance companies and have thereby been granted special legal rights and privileges in the transaction of their business.

According to the grand ducal law of June 26, 1890, pertaining to Baden cattle insurance companies, there are at the present time 385 local cattle insurance companies and societies in existence which are not included in the foregoing figures.

GOVERNMENT ANNUITIES IN CANADA.

OLD-AGE PENSION PLAN PROPOSED BY THE OTTAWA AUTHORITIES.

Consul-General John G. Foster, of Ottawa, advises that the Canadian Minister of Finance has given notice of the following resolution, which outlines the government scheme of old-age annuities that is to be proposed by the Dominion government:

It is expedient to authorize the sale of government annuities, to the end that habits of thrift be promoted, and that thereby opportunity be given to the people of Canada to provide for old age by means of annuities of not less than \$50 nor more than \$600 per year, annuities to be purchasable either by paying a single sum or by the payment of a stipulated sum periodically at fixed and definite periods, the governor in council by regulation to fix the rate of interest to be allowed in the computation of values in tables which are to be the basis of such purchases.

Such annuities are to be payable after the annuitant has reached the age of 55 years or has become disabled; the moneys paid in by an annuitant to be repayable, should the annuitant die before the annuity is payable, to the heirs of the annuitant, with 3 per cent interest, compounded yearly; the property and interest of an annuitant in the contract to be unassignable and to be exempt from legal process, unless the contract be entered into and consideration therefor paid with intent to delay, hinder, or defraud creditors. Upon establishing such intent in a court of competent jurisdiction creditors are to have the right to receive, if the annuity has not become payable, the amount paid in, with 3 per cent, simple interest, or, if the annuity has become payable, the present worth of the same.

The moneys received are to go into consolidated revenue fund and the moneys payable to be paid thereout; an account to be known as the government annuities account is to be kept of all moneys received and paid out in connection with annuity contracts, and of the assets and liabilities appertaining to the grant of the annuities, including among the liabilities the present value of the prospective annuities contracted for up to the end of each fiscal year.

POST-CARD INSTRUCTION.

GERMAN EDUCATORS INTRODUCING THEM INTO PUBLIC SCHOOLS.

Consul Frank S. Hannah, in the following report from Magdeburg, tells of the new educational use of pictorial post cards in Germany:

At the recent meeting of the German Geographical Society the idea was advanced for the first time to employ picture postal cards as means of instruction in the schools. The postcard industry has made enormous progress in the last few years, and in the last few months cards have been brought into the market illustrative of natural history, political history, and for use in instruction in the German language, which have met with the hearty approval of professors and teachers of reputation.

The school museum at Breslau has undertaken to form a collection of these cards, and for this purpose has requested the various publishers to forward them samples of their output, that it may be determined to what extent they may be used for purposes of instruction. Further, two teachers in Leipzig have established a central bureau for meritorious post cards of all sorts intended for purposes of instruction, collection, and travel. They have also developed and offer for sale two practical systems for the display and filing of the cards. These gentlemen select and arrange the cards most carefully according to pedagogical principles. Such prominent educators as

Harms, Tischendorf, Rudolf Schmidt, and others have indorsed the plan of using illustrated cards as an aid in instruction, and even official bodies, such as the Provincial Schulkollegium in Potsdam, anticipate favorable results from them.

REGULATING GERMAN STORES.

NEW BILL RESTRICTING THE SELLING OUT OF LARGE STOCKS.

Consul-General Richard Guenther sends from Frankfort the following summary of a new measure to be introduced in the German Reichstag restricting "bankrupt" sales of mercantile stocks:

The Federal Government of Germany has submitted to the governments of the individual States the draft of a bill, to be laid before the national legislature, which is to check an abuse in the retail business, the selling-off procedure whereby the purchasing public is deceived and honest business competitors are seriously injured. The new bill purposes to amend the present law against "illicit competition." It fixes (1) a penalty of 5,000 marks (\$1,190) fine, or imprisonment up to twelve months, if a person advertises or offers goods for sale as being part of the stock of a bankrupt unless such person has been actually authorized by a receiver in bankruptcy or a legally constituted authority, or (2) when a person or firm, having announced the selling off of the stock in order to close business, adds goods to the stock in order to increase the sales.

The penalty applies even where it is proved that the stock has been increased before the announcement for "selling out" was made in terms like these: "Total closing-out sales on account of death," or "to reduce business," or "on account of lack of storage room," or "to get rid of old stock," and similar devices used to mislead the public.

CARING FOR BRITISH POOR.

INCREASED LIBERALITY SHOWN—PER CAPITA COST OF MAINTENANCE.

Consul Frank W. Mahin writes from Nottingham that increased liberality is being shown in England in the care of the poor. The new workhouse in Nottingham cost \$1,250,000. The cost of maintaining paupers in workhouses increased 65 per cent from 1896 to 1907, and of relieving the poor outside of such institutions 55 per cent. The per capita cost to the people of maintaining the poor in England and Wales is now 48 cents.

TEXTILES.

MARKETS AND MILL PRODUCTS.

SCOTLAND.

LARGE DECREASES LAST YEAR IN THE PRICES OF JUTE AND LINEN.

Consul John C. Higgins furnishes the following information concerning the decrease in prices and in output of the jute and linen mills of Dundee in 1907, and the causes thereof:

While in the early part of 1907 the jute-cloth trade of Dundee had reached the highest prices known since the close of the American civil war, there was thereafter a steady decline, on account of slackness of orders, until the value of 40-inch, 10½-ounce, 11-porter burlaps, which had stood at 6.33 cents per yard, fell to 4½ cents in September. This, however, was partly compensated for by a corresponding fall in the price of yarn. In the late summer a demand from South America sprang up, and for the lighter burlaps a demand from the United States arose, while the continental and the home markets took considerable quantities of the wider makes, so that the manufacturers consequently were enabled to advance prices to a small extent.

Floor-cloth burlaps fell during the year from 7 to 5 cents per yard, and other heavy fabrics were similarly affected. The closing months of the year felt the effects of the money crisis in the United States, not only directly in the falling off of shipments thereto, but indirectly from the stringency caused in the money markets of this and other countries. The burlaps exported from Dundee to the United States during the quarter ended December 31, 1907, amounted to \$829,821, a decrease of \$680,778, as compared with the exports in the same quarter in 1906. The greater part of this falling off occurred in the last two months of the year, during which instructions were being continually received from the United States to stop shipments until further notice. As a whole, the year closed with none too bright prospects; orders are by no means so plentiful as they were last year, and the general depression is particularly felt in the floor-cloth widths.

BETTER CONDITIONS EXPECTED—FLAX TRADE.

There are now so many wide looms that when a good time comes there is a general rush to manufacture, with the result that in a very short time the supply far exceeds the demand, leading to lowering of prices and curtailment of production. There is, however, a growing outlet for wide burlaps, owing to the greater use of floor cloth and linoleum as floor coverings. The hope is expressed that when money conditions in the United States resume their normal state trade all round will revive.

Prices of flax at the opening of the year were at a comparatively low level, especially looking to the exceptionally good quality produced by the 1906 crop, which was above the average in quantity. Taking advantage of these favorable conditions, spinners began to buy freely, with the result that prices remained firm, with a rising tendency—certain marks which in January stood at \$182 per ton rose by July to \$190.

The opening months of the year found flax spinners enjoying an excellent trade. They were well booked up with orders running far ahead, which they were able to supply from a plentiful stock of raw material, bought at low prices. So great was the demand that spinners were justified in advancing prices, which by June reached a higher standard than for many years previous.

LINEN INDUSTRY.

The conditions existing in the linen trade at the close of the year 1906 gave rise to much uncertainty for the future. Yarns were at a high price, but the demand for linens did not allow a proportionate return to manufacturers. A still further advance in yarns compelled them to raise prices, and it was only with the greatest reluctance that buyers responded, and even then only purchased in quantities sufficient to meet immediate requirements. During the first half of 1907 manufacturers who, as a rule, held fair stocks of reasonably priced yarn, were able to keep looms going, being aided in doing so by extensive Government orders in the heavier makes, but the last six months of the year business was exceptionally dull, the demand falling away almost entirely, and lessened production was resorted to, either by stoppage of machinery or by means of short time. The American crisis was one of the principal contributing causes to this state of matters. The year was not a profitable one to fabric manufacturers. Those, however, who spun their own yarn fared better, as their stocks of flax were cheap and good. The outlook is not promising, but from the fact that so little has been doing in the past, stocks must be greatly depleted and buying can not be much longer delayed. Yarns give indications of easing and this would aid materially in bringing about an improvement.

EXPORTS TO UNITED STATES.

The value of flax and tow, jute and jute products, and linens declared at Dundee for export to the United States for the past three years is shown in the following statement:

Articles.	1905.	1906.	1907.
Bagging.....	\$370,876	\$696,703	\$806,762
Bags.....	14,893	40,317	37,474
Burlaps.....	4,480,510	5,361,276	4,792,616
Carpeting, jute.....	21,915	15,273	12,856
Duck, sail.....	17,561	46,363	38,041
Flax and tow.....	118,244	72,375	314,196
Jute.....	56,139	54,632	167,189
Linens.....	1,353,262	1,158,267	1,217,686
Linoleum.....		9,888	39,296
Yarn.....	251,393	416,901	547,686
Total.....	6,684,783	7,871,895	7,973,751

MANCHURIA.**COTTON GOODS AT DALNY—CONDITIONS AND PROSPECTS OF THE PORT.**

From available statistics of imports at Dalny for the twelve months ended June 30, 1907, Consul Roger S. Greene infers that the efforts of the Japanese cotton piece-goods syndicate, formed after the late war, to introduce their goods into Manchuria have met with great success. The consul reviews this trade as follows:

Whereas before the war the importations of Japanese cotton goods into Manchuria were an insignificant factor in the business, during the year ended June 30, 1907, according to statistics collected by the Dalny Commercial Museum, the value of all cotton goods imported at Dalny from Japan was \$1,510,422, while those from other ports were valued at \$567,229. The values of American, British, Chinese, and other goods included in this list are not stated separately. The value of sheetings and shirtings imported, under which heading come the goods manufactured by the syndicate, was \$819,847 from Japan and \$450,830 from elsewhere.

As it would seem that the syndicate sent its goods to its agents, the Mitsui Bussan Kaisha, frequently on consignment, to be sold even at some sacrifice in order to introduce the marks, it is not easy to say, from local observation, just how much these figures mean, especially as Dalny is still only a port of entry for cotton goods, and not a place where Chinese buy and sell them in any considerable quantities. Under normal circumstances, even for Japanese cotton goods, Newchwang would appear to be the principal port for carrying on this business, and the principal consumption is probably in the Mukden district. The quantity of merchandise of all kinds coming through Dalny in 1906 and until July, 1907, was abnormally large on account of the fact that until the latter date it entered Manchuria free of duty by this route. After the establishment of the custom-house on July 1, 1907, the imports of cotton goods suddenly fell off, the total amount of cotton textiles imported in the quarter ended September 30 being valued at \$77,390, of which four-fifths were from Japan, as compared with \$475,454, of which about nine-tenths were from Japan, in the quarter ended June 30, 1907.

SALES OPERATIONS IN STRONG HANDS.

The connection with the Mitsui Bussan Kaisha is of the greatest advantage to the cotton syndicate, as that firm enjoys the highest financial standing, is able to employ experienced men, and, on account of its large and varied business in Manchuria, both in imports and exports, can and does maintain a large number of branch offices which are of the greatest use in such a campaign, besides being in a position in other ways to handle the business in an exceptionally economical and effective manner. Moreover, through the cooperation of the factories in the syndicate, measures are taken to improve and make uniform the grades of the goods turned out, which is of much importance in laying the foundations for future success. It is difficult to tell here what the effect on American goods has been,

as Dalny was never a considerable port of entry for them, and comparison with the past is, therefore, impossible.

The cotton-goods trade at Dalny is almost entirely retail, and even this is insignificant on account of the small population of this region and the fact that a large proportion of the Chinese here are coolies from other provinces, who bring with them what clothes they need, and have little occasion to buy others before they return home with their savings. As a matter of fact, the sheetings and shirtings in the Chinese stores here are practically all from Shanghai, and mostly of American and English origin. On account of the small scale on which the business is carried on here it would be unsafe to base on these facts any sweeping conclusions as to the situation in the rest of Manchuria.

In view of the energetic and thorough manner in which the Japanese manufacturers are working for the control of this market and the advantage which proximity gives them, it is evident that American dealers should display more energy if they wish to maintain a prominent commercial position in Manchuria.

ASIATIC TURKEY.

MARKET OPENING FOR READY-MADE CLOTHING IN ASIA MINOR.

Consul E. L. Harris, of Smyrna, advises that if American establishments which manufacture ready-made clothing could furnish that Turkish market with men's suits averaging about \$15 in price wholesale, he feels certain a good trade could be done. The consul continues:

The ready-made clothes trade has greatly developed in this part of Turkey in recent years. This has not been confined to the coast cities alone, but has been especially noticeable in the interior towns, and in the country districts, where the population is rapidly dropping the native costume. Smyrna is the center of the trade, and not only supplies the interior of the country, but the islands of the archipelago as well.

In Smyrna there are five large establishments, and a number of smaller ones, which sell ready-made clothing. If American dealers interested in this field will send prices for ready-made men's and boys' suits, as well as ladies' cloaks, and rain coats for both men and women, to this consulate, I shall take pleasure in bringing them to the notice of the trade in Smyrna.

IRELAND.

BELFAST LINEN MILLS CURTAIL PRODUCTION—HIGH YARN COST.

Consul Samuel S. Knabenshue makes the following supplemental report on the Irish linen industry. He writes from Belfast under date of February 19:

The 20 per cent reduction in the hours of employment in both the spinning and weaving linen mills, which went into operation in November last, has since been followed by a further reduction. At present the usual time—fifty-seven hours per week—is reduced by 33½

per cent in the spinning mills and 20 per cent in the power-loom factories (weaving); but the latter have a great many looms stopped, and it is estimated that the reduction in their output is between 50 and 60 per cent.

The depression has not produced much decline in prices as yet. The spinners have large contracts for yarns yet unfilled, but they refrain from aggravating the situation by compelling the weaving firms to take yarns faster than they can use them. On the other hand, the latter do not wish to manufacture more than enables them to supply current orders. The prices of yarns are too high to allow them to make goods for stock, as they would do if yarns were cheap. They have large quantities of yarns contracted for at the present high prices, and naturally do not wish to see the prices of manufactured goods decline so long as this condition exists.

Although the demand for linens is much below the average, it has by no means ceased, and any increase therein will cause larger quantities of goods to be made. The report of the Flax Supply Association for January shows for that month a decrease in the total yardage shipped of 7.4 per cent, with an increase of 4.3 per cent in value. All manufacturers express their expectation of a fairly good spring trade.

GERMANY.

LARGE DIVIDENDS DECLARED BY A COTTON MILL AT BAMBERG.

Consul William Bardel, in advising that a cotton spinning and weaving mill at the German city of Bamberg is declaring an annual dividend of 27½ per cent on its capital stock, gives the following account of this mill's prosperity:

This concern, which now consumes annually about 25,000 bales of American cotton, is thereby the best customer of the United States in this consular district. The preliminary annual report by the board of directors of the mills shows how, by judicious and timely investment in the raw material, large profits were gained in a rising market, so that a fair profit would have been realized had the demand for yarns and finished textiles, mostly plain sheetings and shirtings, been less pronounced than it proved to be during the past year. Owing to the great scarcity of labor in the textile branches at times this brisk demand had to be met by extraordinary efforts, but it was met successfully. Even now this factory has orders ahead for yarns and textiles to keep it going in full force until next October, and, inasmuch as they are fully covered in raw material at comparatively low figures, the prospects for another successful year are bright.

The net profit of the Bamberg cotton mills for the year 1907 was \$366,768. Of this amount the directors propose to apply \$83,507 for workingmen's pensions, for extraordinary deduction for wear and tear of machinery and other matters, and after declaring a dividend of 27½ per cent on all their stock, amounting to \$856,000, making the sum of \$235,620, they will put the remainder, viz, \$47,641 to the reserve fund. During the last 22 years this concern has not lost one cent in bad accounts.

JUTE TRADE CONDITIONS.

BRITISH INDIA.

CALCUTTA SHIPPERS' LOSSES—SECURING UNIFORM SHIPPING BALES.

Consul-General William H. Michael sends from Calcutta the following information concerning the jute market, a new jute press, and the standardizing of jute bales:

The Calcutta trade in jute fabrics and hides and skins has been seriously affected by the monetary conditions in the United States, and a number of extensive shippers have made their losses known to this consulate. The conditions reported before the holidays in London and Dundee are about the same in kind in Calcutta. The reports from those points agree that the position in the United States is causing some anxiety. Several of those who regularly export jute fabrics are being put to no end of inconvenience. Further orders are being delayed or canceled, and large parts of shipments already made are not being remitted for. The difficulty resulting from the general demand to have payment in gold is being felt on every hand.

A jute press that will press a bale of jute containing 143 pounds has been invented, and is in use in India, that is rapidly doing away with the "drum method" of packing for shipment. The machine costs only \$165, and will soon pay for itself by economy of loading and unloading and in saving of freight and preventing loss by pilfering from the loose drums. One broker sent out 188 of the new presses to jute districts from Calcutta.

THE CROP AND EXPORTS.

The table below, giving the number of bales of jute exported from India during the last six months of 1907 (2,566,306), shows that the final forecast of the Government for the current season (July 1, 1907, to July 1, 1908) has not been realized, and that, instead of an increase, the amount of the product has fallen considerably short of the three previous years:

Season.	First six months.	Last six months.	Total.
1904-5.....	2,611,112	938,786	3,549,898
1905-6.....	2,709,466	1,416,809	4,125,775
1906-7.....	2,944,063	1,615,957	4,560,020
1907-8.....	2,566,306	-----	-----

According to a Calcutta journal, the statistics for the six months ended December 31, 1907, show that there was a movement at Calcutta and Chittagong of 6,192,743 bales, 2,566,306 of which were exported, 2,826,437 were taken by local mills, 500,000 were allowed for country consumption, and 300,000 were estimated for stocks in bazaar, press houses, and in ships' holds.

The local mills received into their godowns during the first six months of the season almost 75 per cent of their estimated consumption for twelve months, and as immense piles of bales have been purchased and are stored on mill account upcountry, the mills are comfortably off on the average and are well within sight of their total requirements for the season. Foreign customers require 4,200,000

bales for a year's consumption. Against this they had a good stock with which to commence the season, and they are apparently in no hurry to rush the jute home. America has received upward of 350,000 out of the 600,000 bales she usually requires, and may not require so much this season, owing to the contemplated abandonment of heavy bagging for the packing of cotton bales.

The United Kingdom has already received 1,350,000 bales, all that is required for the year's consumption, leaving the stock at the beginning of the season intact. But the Continent requires another 1,000,000 bales during the second six months of the season, and there is no fear but that that quantity will be forthcoming. Altogether there is in view for the first half of the season 6,200,000 bales, leaving (according to the Government forecast) 3,600,000 to be forthcoming during the following six months. A realization of this figure will give a surplus of 1,000,000 bales over actual consumption, which added to the surplus of last year, will give a tidy stock of 2,000,000 bales with which to commence the next season. So it is evident that whatever course prices may take there will be no lack of the raw material.

STANDARD OF JUTE BALES.

A large and representative meeting of the Calcutta Baled Jute Association was held January 17, 1908, to consider the question of changing the baled-jute contract so as to bring the quality guaranty more in line with the same clause in the London contract. For some years, it appears, the quality of standard marks here has been steadily deteriorating, owing to the fact that they have only been guaranteed up to the standard of last year's baling. London, on the other hand, expects to get the same standards as were customary five years ago. The result of this has been many arbitrators and many allowances and consequently heavy losses to the Calcutta shipper, who has been forced to buy on Calcutta standard and sell on the higher London standard. Several attempts have been made to mend matters, but until this meeting the attempts were unsuccessful. Various proposals were made, but after some discussion it was decided that if, out of 5 bales examined, there are more than 2½ per cent of cuttings shippers will have the right to reject the parcels. This applies to all grades higher than heart marks, effective after March 1.

BRAZIL.

JUTE BAG MANUFACTURE IN NATIONAL ESTABLISHMENTS A MONOPOLY.

Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro, furnishes the following report on the conditions under which the monopoly of jute bag manufacture is profitably carried on in Brazil:

The bags used to hold Brazil's immense coffee crops are manufactured by national industrial establishments. When it is remembered that last year Brazil needed over 20,000,000 jute bags to hold the year's coffee production, and that each bag costs the shippers a trifle over 18 cents, it is seen that the business of manufacturing coffee bags takes on very considerable proportions, amounting last year to nearly \$4,000,000. Bags made of the same material are used also for rice, beans, and other agricultural products of Brazil. The greater part of these bags are manufactured by five large establishments which

have hitherto been more or less independent of each other. Two of the largest of the factories are owned by an American who is also the sole owner of large cotton mills. Through the efforts of this mill-owner all five of the large mills producing bags for coffee and other purposes have been brought under one management.

Only a few weeks have elapsed since the completion of the organization, but already the prices have been raised about one-third of a cent per bag.

Bags are manufactured from the raw jute, nearly all of which is imported from British countries, the imports therefrom in 1906 amounting to about \$2,500,000. Of course the United Kingdom could produce the finished article much more cheaply than it can be manufactured here, but the item of duties is a factor to be reckoned with on that score. The duty on jute bags is 800 reis per kilo (2.2 pounds) which becomes in actual payment, including proportion payable in gold, about 35 cents. The average weight of bags used for coffee is approximately 440 grams, or very nearly one pound, which means about 16 cents per bag in customs charges, and since the manufacturers' price averages a little more than 18 cents per bag, the duty amounts to 88 per cent, as based on the price here, while if based on the manufacturers' price in England it amounts to a much higher rate.

TEXTILE INVENTIONS.

ENGLAND.

NEW SPOT-VEILING MACHINE WILL SAVE MUCH HANDWORK.

Consul Frank W. Mahin, of Nottingham, advises that after eight years' experimenting, at a heavy expense and against many discouragements, a machine has been perfected by a mechanic and a lace manufacturer of that English city, for spotting veilings with chenille, concerning which he says:

Hitherto this has been done by hand. The machine, it is claimed, will do in a few minutes what would require months of handwork. The chenille used in spotting is made in lengths, and is cut off as each spot is inserted into the veiling. Obviously, that is a slow and laborious hand process. In a frame over the new machine are placed as many lengths of chenille as are required for the width of the veiling. The chenille passes down into the machine, which inserts and cuts it automatically as the veiling passes through the machine. The machine is adjustable so that the spots may be in rows of absolute uniformity, or by an automatic shifting device the spots may be placed in varying rows.

The initial difficulty, which took several years of experiment to overcome, was that many of the spots fell off the veiling, though apparently fast when set in by the machine. This defect was removed by gradually perfecting the operators acting upon the chenille. To accomplish this, it was necessary for the inventors to set up a shop and make their own machines, of which they have completed ten. Another equally serious trouble was the breaking of the net by the inserting of the chenille. This was overcome after long and patient effort. The delicate working of the machine in this operation has

been brought to a perfection like that of a steam hammer, whose momentum may be graded from a force sufficient to crush a hard metal to a blow so slight as scarcely to dull the point of a pin.

ADAPTABLE TO JACQUARD WORK.

A final triumph has been gained in a machine with jacquard appliances, which can spot veilings in any design suitable to the gage of the machine. The designs are, of course, quickly changeable, five minutes sufficing to substitute one set of cards for another.

All the present machines are narrow, and comparatively small, yet the production of one of them, on a close set-out, is stated to be nearly 200,000 spots an hour. As such machines may be widened almost indefinitely, their possible achievements are beyond conception. It would seem that they might revolutionize the entire industry of spotting fabrics of every kind. Stronger chenille for thicker substances than veiling could probably be used, applicable to curtains, carpets, tapestries, tablecloths, etc., and the machine may also take an important place in the lace-making industry.

The lengths of the chenille being limited, must be united by knots or otherwise, and these joints give trouble in passing through the machine. To overcome this the inventors are now building a machine of their own device to make their own chenille. When completed, it will remove the only apparent defect in the present work of the spotting machine.

MARKETING THE PRODUCT—SAFEGUARDING THE RESULTS.

The produce of the machines is now being marketed, but the quantity will be small and scarcely appreciable till more and larger machines are made. Then the immediate probable effect will be to greatly reduce the price of veils spotted with chenille. Veils and other articles of spotted net are an entirely different product. The spots on these are made from the same thread and in the same weaving as the net. The machine halts at fixed intervals, and makes a certain number of motions which create the spot, and then resumes the weaving movement.

Patents on the spotting machine have been taken out in the United States, France, Germany, and other foreign countries. The inventors have received liberal offers for their patents, among them such as would take the machines entirely away from Nottingham, but all have been declined. They believe they have an invention of too great value to part with on any conceivable terms that might be offered. In the past new machines were allowed to go from this place and have built up great industries on the Continent, to the serious loss of Nottingham, and it is now the fixed purpose of the town never again to permit a like occurrence.

BRITISH INDIA.

IMPROVED HAND-WEAVING MACHINES—METHODS OF OPERATION.

Consul-General William H. Michael, of Calcutta, sends the following account of the recent contest in India for the production of the best improved hand loom:

The Indian Industrial Conference awarded the prize of \$42 offered for the best factory hand loom to an inventor of Ahmednagar, and the same money prize was awarded for the best cottage loom to what

was termed a "poor man's loom." The latter sells for \$8 and \$10, according to size. The former loom is worked by the foot. The weaver by pressing his feet straight down operates the loom, which has no wheels to turn the shaft; a leather band connected with the end of the foot levers goes round the shaft and turns it round alternately backwards and forwards, which works the sheds as well as the sley. A curving double spring with ball bearings controls the speed. This loom will do more work with less labor than any other hand loom. The "poor man's loom" will do double the work of the ordinary cottage loom now in use. These new hand looms will doubtless increase the consumption of cotton in India by the hand loom, which is stated by a Government official to be about 750,000 bales per annum, against about 1,945,000 bales by the mills.

HAND-WEAVING FACTORIES.

Great effort is being made by Indians interested in Swadeshi to find a hand loom that will do more and better work. The two superior looms shown at the fair recently at Madras causes the belief that a marked advance has been made in hand looms. The first year's working of the special weaving factory established by the Madras Government at Salem with the view of introducing improved hand looms, and to demonstrate the superior efficiency of the factory system would appear to have met with several difficulties.

One satisfactory result of the factory has, however, been that attention has been attracted all over the country, and numerous private hand-weaving factories have been started, which are operating the flyshuttle loom. Experiments have been made at the factory with every type of loom with the result that a fair number of the most satisfactory looms were sold through the factory or sent out on loan for trial during the official year 1906-07.

AUSTRALIAN WOOL EXPORTS.

CONSIDERABLE DECREASE IN SHIPMENTS DURING PAST SEASON.

Consul-General John P. Bray, of Melbourne, reports that the wool exports of Australia from July 1, 1907, to January 31, 1908, show a decrease of 72,463 bales when compared with the corresponding period of last season, as will be seen by the following shipments:

State.	1906-7.	1907-8.	Decrease (-) or in- crease (+).
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
Victoria.....	389,957	354,257	-35,700
New South Wales.....	575,110	511,666	-63,444
Queensland.....	91,018	108,021	+17,003
South Australia.....	133,150	145,647	+12,497
West Australia.....	36,009	44,285	+ 8,276
Tasmania.....	13,615	12,683	- 932
Total Australia.....	1,238,859	1,176,559	-62,300
New Zealand.....	232,061	221,898	-10,163
Total Australasia.....	1,470,920	1,398,457	-72,463

Considerable quantities of wool grown in some States are shipped from others; therefore the above does not show actual production, but total oversea shipments from each State.

MINES AND MINERALS.

THE WORLD'S OUTPUT.

BRITISH INDIA.

STATISTICS SHOWING VALUE OF MINERAL PRODUCTION FOR TWO YEARS

Consul E. Haldeman Dennison, of Bombay, furnishes the following table published by the government of India, giving the total value of minerals for which returns of production are available for the years 1905 and 1906, with a review of mining operations:

Minerals.	1905.	1906.	Minerals.	1905.	1906.
Gold.....	\$12,084,855	\$11,151,420	Jadestone.....	\$227,870	\$222,185
Coal.....	7,097,215	9,560,210	Graphite.....	84,450	50,045
Petroleum.....	8,021,315	2,871,190	Iron ore.....	69,135	56,705
Salt.....	2,206,960	2,104,505	Tin ore.....	49,585	69,905
Saltpeter.....	1,178,615	1,852,735	Chromite.....	17,410	25,940
Manganese ore.....	1,241,545	2,176,840	Diamonds.....	12,870	25,800
Mica.....	710,040	1,297,720	Magnesite.....	2,750	2,440
Ruby, sapphire, and spinel.....	441,700	484,835	Amber.....	4,725	3,545

The output of coal for 1906 rose from 8,417,739 statute tons in 1905 to 9,783,250 tons in 1906, an increase of 16.2 per cent. On account of the higher prices maintained throughout the year, there was a still greater proportionate increase in reported spot value. The external demand for Indian coal has increased with the general rise in prices, and the reduction of Japanese supplies has resulted in an increased export to Singapore. The total quantity exported during 1906 for the first time in twelve months exceeded a million tons.

Imports of coal are still small, though they increased slightly from 188,677 tons in 1905 to 215,712 tons in 1906. The consumption of Indian coals on railways was 2,878,281 tons in 1906, which was 29.4 per cent of the total production, as against an average of 29.8 per cent for the previous five years.

The total consumption of coal increased by 1,161,850 tons, but, on account of the great increase in export, the amount of Indian coal consumed in the country increased at a slightly lower rate than the production. The average number of workers at Indian coal mines in 1906 was 99,138, and the average output per person employed was 98.68 tons, as against 93.5 tons in 1905 and 88.6 tons in 1904.

DIAMONDS, GOLD, JADEITE, AND GRAPHITE.

The diamonds obtained in the central India States of Panna, Charkhari, and Ajaigarb during 1906 were valued at \$25,800, which is a marked improvement on the values reported for previous years. The daily average number of workers is returned as 2,051 for the whole diamond field during 1906, as against 1,890 reported for 1905.

Over 95 per cent of the gold produced in India comes from the native State of Mysore; other districts contributing small quantities, in the order named are Hyderabad, Burma, Dharwan in the Bombay Presidency, Punjab, and the United Provinces. The year 1906 marks the first interruption in the increase of gold production in Mysore.

The total production of crude graphite in 1906 was returned as 2,600 tons, valued at \$50,045, against 2,324 tons, valued at \$84,450, in 1905.

Jadeite stone comes from Upper Burma, and showed a small increase in both quantity and value over 1905. The returns for 1906 showed a production of 2,566 hundredweight, valued at \$322,165. The average number of workmen employed was 1,038.

MAGNESITE, MANGANESE AND IRON ORES, AND MICA.

The amount of magnesite raised in the Chalk Hills, near Salem, in 1906 was 1,832 tons, against 2,063 tons in 1905. The miners numbered 87 for 1906.

The production of iron ore during 1906 was only 74,106 tons, against 102,579 tons in 1905. The output is dominated by the quantity raised for the Barakar iron works, which is the only institution smelting on European lines. Practically all the iron ore of India is supplied by the province of Bengal.

The most conspicuous increase in production during the year 1906 was in manganese ore. The total returned was 495,730 tons, against 253,896 tons in 1905 and only 150,297 tons in 1904. The total returned for 1906 is probably slightly below the actual, as no production was reported from two of the States in which prospecting operations have been carried on actively. The following are the details of the production of manganese ore for 1905 and 1906:

District.	1905.	1906.
	<i>Statute tons.</i>	<i>Statute tons.</i>
Bombay.....		7,517
Central India.....	30,251	50,074
Central provinces.....	159,950	320,759
Madras.....	63,695	117,380
Total.....	253,896	495,730

The labor returns for 1905 show a daily average at manganese ore quarries of 6,811, while in 1906 the total rose to 12,607, exclusive of the workmen employed in Sundur and Mysore.

The total weight of mica produced in 1906 was 54,193 hundredweight, valued at \$1,297,720, against 25,835 hundredweight, valued at \$710,040, in 1905.

PETROLEUM OUTPUT.

There was a slight drop in the production of petroleum for 1906 as compared with 1905, the statistics being as follows:

District.	1905.	1906.
	<i>Gallons.</i>	<i>Gallons.</i>
Burma.....	142,063,846	137,654,261
Eastern Bengal and Assam.....	2,733,110	2,897,090
Punjab.....	1,488	871
Total.....	144,798,444	140,553,122

The local value is estimated at about 2 cents per gallon of crude oil.

The agreement made between the leading company in Burma and the producers in the Dutch East Indies has tended to reduce the figures both for the import of foreign kerosene and for the export of Burma oil, although the figures for the former are largely affected by the failure of Russian supplies.

RUBIES, SAPPHIRES, SPINEL, SALT, SALTPETER, AND TIN.

The output of ruby, sapphire, and spinel, reported by the Burma Ruby Mines Company during the year ended February 28, 1907, was reported as 326,855 carats, valued at \$477,700, against a value of \$441,700 returned for the previous year. Of the total value, \$465,115 is due to the rubies obtained. The average number of workers during 1906 was 2,367.

There was an unimportant reduction in the quantity of salt produced, the total for 1906 being 1,225,465 tons, against 1,291,137 tons produced in 1905.

The value of the saltpeter (bluestone) industry is gaged most uniformly by the figures for exports. The returns for the past five years indicate a gradual rise in the average value, but the industry shows no signs of real expansion. The following are the export figures:

	Hundred-weight.	Value.
1905.....	313,122	\$1,178,615
1906.....	347,251	1,352,735

The local importance of the saltpeter industry is shown by the returns for labor in Behar, where most of the saltpeter is obtained.

The returns for 1906 show that 50,469 workers were employed in this industry.

Tin ore is produced in South Burma, and the output increased from 1,495 hundredweights, valued at \$49,585 in 1905, to 1,919 hundredweights, valued at \$68,995 in 1906. The average number employed at the tin mines was 141 in 1906.

DISCOVERY OF WOLFRAMITE BY AN AMERICAN ENGINEER.

Consul Dennison in another report tells of the discovery of wolframite in British India:

Until recent time the mineral wealth of India, with the exception of gold, was an unknown factor, but the numerous mineral finds which have been made in the last few years have revealed vast possibilities of wealth. In no part of the country are the prospects brighter than in the Central Provinces. The development of the manganese industry has perhaps been the most striking feature of the past decade. But important as the discovery of manganese is, another discovery may prove to be more important still.

An American mining engineer some time ago obtained a concession of part of the village of Agargaon with a view to mining manganese. His employees while digging in a band of mica schist rock that traverses the village discovered a number of lumps of a heavy mineral which, on being examined by the geological survey at Calcutta,

were found to consist of wolframite. The mica schist rock contains a considerable number of quartz stringers, and it is in these that the wolframite is found. The wolframite differs in appearance and constitution from the best-known specimens, but it yields on an analysis no less than 64.5 per cent of tungstic acid.

BRITISH SOUTH AFRICA.

GREAT YIELD OF GOLD FOR PAST YEAR—PROFITS AND PROSPECTS.

Consul John H. Snodgrass, of Pretoria, has prepared the following review of the gold and other mining operations in the Transvaal last year:

The mines of the Transvaal in 1907 yielded gold to the value of \$136,750,000 which, with the exception of about \$5,000,000, was secured along the Reef upon which is situated the city of Johannesburg. This is an advance of about \$13,750,000 over the previous year, which is considered a handsome showing, though considerably below the ratio of increase noted in former years.

There was a similarity between last year and the years 1905 and 1906, which together may be characterized as a period of progress and disappointment—progress solid and convincing in the wonderful gold industry itself, disappointing in that little fresh capital has been available for the prosecution of new mining ventures, and that prospecting in outside districts has failed to disclose anything of real permanence and genuine value. This inability to discover rich new precious mineral territory during the past five years is a discouraging feature of the Transvaal's history, for during that time the great Premier Diamond Mine has been the only one found that is recognized as valuable. The diminution in the yield per load and the severe fall in the price of diamonds seriously affect the profits, and consequently the revenues, from the 60 per cent accruing to the government, have seriously fallen off.

LABOR PROBLEMS AND DIVIDENDS.

The crucial feature of the industrial year is seen in the decision of the government to discontinue Chinese indentured labor, which has been a great factor in the output of the mines and in bringing up the profits to a standard of \$50,000,000 per year. Whether the industry will be as well situated when 30,000 or 40,000 coolies are repatriated is doubtful. However, the industry seems to be developing into the way of breaking rock more and more by machine drills.

The aggregate dividends of the Rand for 1907 approximate \$35,000,000. By including the three dividend payers of the outside districts, in the Transvaal, the total dividends of the gold-mining industry in this colony paid out at the end of December, 1907, amounted to \$35,658,040.

No less than 45 companies find a place in the dividend schedules as compared with an average of 65 Rand concerns producing during the past year. The aggregate issued capital upon which dividends are being paid is no less than the round sum of \$120,000,000. Compared with 1906, \$13,500,000 more capital is in receipt of dividends, and it is interesting to note how this has been gradually increased;

in 1906, \$115,650,000 issued capital was earning dividends; in 1905, \$108,500,000; in 1904, \$82,650,000, and in 1903, \$60,845,000. It may be stated in general terms that the issued capital of the Rand gold mines is \$375,000,000, of which one-third represents mines not working.

RATIO OF PROFITS—MINING NOTES.

On the issued capital (distinct from the market valuation of the shares of the companies, which is quite different) the dividends work out at 27.4 per cent compared with 24 per cent in 1906 and 21 per cent in 1905. The share prices during 1907 fell seriously, but even allowing for the dividends paid in the interim, which must rationally be deducted from the price of the shares, the yield on Rand stocks of the highest class is somewhat better to-day than ever before.

The profits made by the Rand companies in 1907 totaled about \$50,000,000. On this basis 70 per cent of the profits declared by the companies is distributed as dividends. The financial corporations of the Rand show an aggregate of \$7,975,000, as compared with \$6,520,500 for the previous year. Collieries increased their dividends only \$175,000 over the \$617,590 for the previous year. There is no variation whatever in the dividend showing of the gold mines in outside districts.

The mineral output of southern Rhodesia for the year 1907 shows an all-round increase as compared with 1906. The gold output for the year amounts to \$11,157,155, an increase of \$121,320; silver, \$83,610, an increase of \$20,000; lead, \$57,975; copper, \$33,230; tungsten, \$27,235; chrome, \$115,655; antimony, \$9,625; coal, \$278,785; diamonds and precious stones, \$144,920. The value for the whole mineral output for the year was \$11,908,315. At the end of the year there were 154 producing gold mines.

For the first nine months of 1907 the Transvaal's output of precious and base minerals was valued at \$114,912,720, the share of gold being \$101,273,015; diamonds, \$9,690,515; coal, \$2,907,750; silver, \$338,615; other minerals, \$704,825.

It is estimated by leading mining experts at Johannesburg that the amount of gold still to be mined along the Rand Reef is valued at \$5,000,000,000.

FEDERATED MALAY STATES.

SLIGHT DECREASE SHOWN IN OUTPUT OF TIN LAST YEAR.

Consul-General Thornwell Haynes reports from Singapore that the output of tin of the four States of Perak, Selangor, Negri Sembilan, and Pehang, which constitute the Federated Malay States, and produce 60 per cent of the world's production of tin, was, in tons and duty value, for 1906 and 1907, as follows:

	Tin.	Tin ore.	Total.	Duty value.
	Tons.	Tons.	Tons.	
1906.....	18,259	30,358	48,617	\$5,670,791
1907.....	13,938	34,494	48,432	5,310,646

BITUMEN IN TURKEY.

CROWN CONCESSION FOR WORKING TO BE GIVEN THE HIGHEST BIDDER.

In reporting that the bitumen deposits in Judea belonging to the "civil list" of the Sultan of Turkey are shortly to be leased to the highest bidder, Consul-General Edward H. Ozmun, of Constantinople, thus describes these resources of that part of the Ottoman Empire:

Bitumen exists principally in the Province of Aleppo and Syria. The *caza* of Saida contains deposits in the vicinity of Ain-Tadjoura. These deposits are also to be found in the villages of Ain-ebel, Aidib, and Hereika, at various places in the Sandjak of Acre (St. Jean d'Acre), near Antioch, and at Latakia. In Syria the bituminous pits of Hasbeya are the most noted; at Sohmar and Ain-el-Tin these deposits are no longer exploited.

In 1897 the "civil list" leased to a Beirut firm the right to work these bitumen deposits on a basis of one-third of the product mined to the concessionaire and two-thirds to the Government. In 1895 the total quantity mined amounted to 600 tons, of a total value of about \$70,000. The average amount exported from Saida amounts to 370 tons. From Beirut there were exported the following number of boxes of 100 kilos (kilo=2½ pounds) each: In 1893, 396 valued at \$4,030; in 1894, 2,000 at \$20,196; in 1895, 5,200 at \$45,360; and in 1896, 6,100 at \$56,448.

The bitumen from Judea is generally in large pieces mixed with earthy substances—limestone, clay, and sand. It is worth as much as \$180 per ton. It rarely contains oxygen, resembling somewhat ozocerite, but it always contains sulphur.

Judean bitumen floats in pieces of varying size on the Dead Sea, and is washed up principally on the western shore, where the Arabs collect it. The bitumen rises from the depths and forms islets, which were remarked in ancient times and described by Strabo. The local earthquakes have the effect of augmenting these deposits. In the year 1834, after a severe shock of earthquake, a mass of 20 tons was thrown up on the southern coast; in 1837, when a sharp shock was felt all over Syria, a mass of 15 tons came to the surface.

STRATUM OF BITUMEN OF JUDEA AND ASPHALT OF THE DEAD SEA.

The bituminous deposits of Judea, from the southern extremity of the Dead Sea to the source of the River Jordan, lie in a remarkable manner along an axis parallel to that of the basin. These consist of either brecciated bituminous veins surrounded by limestone or in impregnated asphalt, between which no distinction will be made in the following details:

The deposits along the western coast of the Dead Sea to the source of the River Jordan are the following: Waddy Sebeh, Waddy Mayawat, Nebi Musa, and Hasbeya at the northern extremity of the River Jordan. Other deposits are known to exist principally around Tiberius, but they have not been the subject of any special study.

The impregnations are found in Cretaceous surroundings. At Nebi Musa and Hasbeya these are white and soft and contain numer-

ous fossils such as pecten and spines of echinoderm, remains of fishes. The deposits are generally well defined and of limited extent. Impregnation ceases gradually as the limestone becomes more argillaceous. The impregnated limestone, rich in fossils, is either a brownish color, as at Hasbeya, or of a rich black, as at Nebi Musa.

When exposed to the sun they lose their superficial color, while on the surface they are only distinguishable by a faint bluish color of the surrounding chalky clay, and at times are passed unnoticed. The limestone in the vicinity of the bituminous deposits is often marked with numerous veins of gypsum and also contains a slight proportion of chloride of sodium. Below is the analysis of limestone taken from a tufa subjacent to a layer of bituminous limestone of Nebi Musa :

CaO, CO ₂	92.53	Insoluble.....	1.08
MnO, CO ₂	1.86	Water and loss.....	2.14
Fe ₂ O ₃ and Al ₂ O ₃	0.57		
NaCl	1.82	Total.....	100.00

DETAILS OF THE VARIOUS DEPOSITS.

The deposit of Waddy Sebeh, of minor importance, is composed of dolomitic limestone impregnated with bitumen. The person who rediscovered it compares it to the ancient description by Strabo of the rocks exuding pitch. The stream of Waddy Sebeh has forced itself a passage across this calcareous region, and one often finds, down the river and in the bed of the stream, fragments of asphalt, torn away, no doubt, by the waters from the calcareo-bituminous regions it traverses.

The deposits of Waddy Mahawat are situated not far from the saline deposits of Djebel Usdom and at about 300 meters (meter = 3.28 feet) from the mouth of the Waddy Mahawat stream. The cretaceous limestone is here strongly impregnated with bitumen. It oozes from the fissures and at times takes the form of real stalactites. The alluvium attached to this limestone is also impregnated with bitumen (and forms a bituminous pudding stone). The stream of Waddy Mahawat traverses this deposit and carries with it fragments of this bituminous conglomerate.

The deposit of Nebi Musa is the most extensive of all. It shows itself on the surface in large bluish patches, which expose a bituminous limestone of a beautiful black when cracked. The analysis of two different samples of this calcareo-bituminous deposit, but not taken from the same layers, is given :

Constituents.	No. 1.	No. 2.
CaO, CO ₂	68.73	82.10
MgO, CO ₂.....	.27	0.00
Terreous residue.....	6.00	3.90
Bitumen	25.00	13.55
Total.....	100.00	99.55

This limestone, it will be seen, is rich in bitumen, burns with the greatest facility, and in fact the Arabs use it for replenishing their fires.

The deposit of Hasbeya, situated at the northern extremity of the Jordan, is one of a series of deposits, absolutely analogous to that of Nebi Musa, which stretch along the Anti-Lebanon.

The bituminous limestone of Hasbeya is brown and not as rich as that of Nebi Musa. At the time of the Egyptian conquest it was the seat of regular workings, and one can still see the remains of some twenty pits.

The following analyses are those (1) of bituminous limestone, (2) of limestone where the impregnation ceases, (3) of limestone at a certain distance from the limit of impregnation:

Constituents.	(1)	(2)	(3)
Bitumen	10.00	10.00	0.00
Insoluble matter	6.00	0.00	0.00
CaO, CO ₂	77.96	18.40	5.50
MnO, CO ₂ .....	.88	.06	0.00
Al ₂ O ₃ , Fe ₂ O ₃	5.68	1.20	17.50
SiO ₂	0.00	70.00	75.00
Total	99.92	99.66	98.00

One may here note the impoverishing influence of silica on the extent of the impregnation. At a depth of 60 meters there is found a particularly rich layer containing asphalt with the following analysis:

Bitumen and volatile matter	72.6
Carbon	14.0
Terreous residue	13.4
Total	100.00

This asphalt is partially soluble in alcohol, and more so in essence of turpentine.

Apart from these various deposits, there has already been mentioned under the name of Judean bitumen, the bitumen which floats on the Dead Sea and would appear to originate from thermal sources in this lake bed.

GERMAN COAL TRADE.

GREAT INCREASE IN CONSUMPTION—WHOLESALE PRICES.

Consul Talbot J. Albert, reporting from Brunswick, says that perhaps no more striking proof can be given of the prosperity and the remarkable economical development of Germany than the increased consumption of coal, which he treats statistically as follows:

Since 1895, or in a round dozen years, the consumption has doubled, having risen from 100,000,000 to over 200,000,000 tons. In the year 1902 Germany was supplied with 148,000,000 of anthracite (Steinkohle) and bituminous (Braunkohle) coal. Last year (1907) the amount supplied was 208,000,000 tons.

If the consumption is reckoned to the head of population, this would show in five years an increase from 2,500 to 3,300 kilos (5,500 to 7,260 pounds) per person. In the years 1906 and 1907 there existed a considerable variation in the source from which the increase was supplied. While in 1906 the domestic mines bore the burden of the increase, in 1907 the scarcity in the home market favored the importation of English coal, which showed a round increase of 5,000,000 tons.

As to the relation of anthracite and bituminous coals the statistics show a steady increase in the consumption of the latter kind. In

1907 there were consumed 137,000,000 of anthracite and 71,000,000 of bituminous coal. A few years previous the consumption of anthracite was three times greater than that of bituminous coal.

The average advance in price of all kinds of coal between 1895 and 1907 was from 16.3 to 18.3 marks (\$3.88 to \$4.35) per ton wholesale, or about 12 per cent. The price is fixed by the coal syndicate. The State of Prussia is a large owner of coal mines and is represented in the syndicate, but has not a controlling vote.

PETROLEUM PRODUCTION.

COLOMBIA.

REFINERY BUILDING AT CARTAGENA—OIL FOUND IN THE COUNTRY.

Consul Isaac A. Manning sends the information that Colombian capitalists have organized the Cartagena Oil Refining Company with a capital of \$150,000 American gold, all of which has been subscribed, the object being to exploit a concession for the refining of petroleum in the city of Cartagena. The consul furnishes the following details of the enterprise:

The concession was granted for a period of twenty years, but has already run some four years. The company has begun to erect the necessary buildings and expects to have the machinery all in place and the plant in full operation by July 1. The refinery will have a capacity of about 150,000 cases of refined oil (10 gallons to the case) per annum.

The factory will be located on Cartagena Bay near the pier at La Machina, and will be of lumber and zinc construction. The greater part of the machinery has been tentatively ordered from England, although the president of the company informs me they will be in the market for tin cans, cases, and crude petroleum as soon as the refinery is in place.

WHERE NATURAL DEPOSITS EXIST.

It is the intention of the company to import its crude oil for the present, probably from the United States, but there is an extensive territory along the Caribbean coast of Colombia where petroleum seems to be present, and later the company expects to attempt the development of these deposits.

In the valley of the River Sinú it is stated that there are a number of petroleum springs, from which the oil is gathered in small quantities for lubricating purposes and for illumination. One spring there is said to produce an oil sufficiently pure to burn in a common kerosene lamp. It seems that little effort has been made at any time to develop the oil industry here, although the original concessionaires have a boring apparatus and commenced at one time to investigate a district near the town of Turbaco, 26 kilometers (kilometer=0.62 miles) from Cartagena, but suspended work before any depth had been reached. They state that they found gas, slate, and other signs of oil, and do not doubt that had operations been continued the presence of oil would have developed.

There is no doubt that oil exists at various points in Colombia, and geologists have frequently declared it to be present. They have made

the same declaration as regards coal, which is said to exist in great quantities near the coast to the south of Cartagena. A certain American professor of geology reported as follows in 1867:

All this area (referring to a district of about 5 miles that he had examined) is a true deposit of coal, which contains the same alternate strata of lime, slate, clay, coal, and petroleum and sand as that of the true carboniferous series of the United States of America, and differs therefrom in nothing. The coal is hard, breaking in cubes, is bituminous in character, and a little harder than Richmond, Va., coal.

The geological character of the country would indicate both petroleum and coal deposits, which may both be developed before many years. There is a duty of 8½ cents per kilo (2½ pounds) on refined petroleum and a duty of 1 cent per kilo on crude petroleum; hence the new company will enjoy a very large differential.

BRITISH INDIA.

DECREASE IN THE HOME PRODUCTION—IMPORTS—EXPORTS.

Consul-General William H. Michael, of Calcutta, furnishes the following statistics concerning home and foreign petroleum in India:

The production of petroleum in India, which in this case means the production of Burma, was as follows during the years 1904, 1905, and 1906, as given in the annual report on mineral production for 1906:

Province.	1904.	1905.	1906.
<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	
Burma oil fields:			
Yenangyaung Magiva.....	73,428,960	85,648,749	89,549,252
Sing, Myingyan.....	23,677,450	37,541,177	34,843,621
Yenangyat and Pakokku.....	18,660,485	18,759,818	13,172,136
All other.....	137,909	114,102	89,252
Total for Burma.....	115,903,804	142,063,846	137,654,261
Eastern Bengal and Assam.....	2,585,920	2,733,110	2,897,990
Punjab.....	1,658	1,488	871
Total for India.....	118,491,382	144,798,444	140,553,122

The following statement shows the imports of petroleum into India during the years 1904, 1905, and 1906:

Whence imported.	1904.	1905.	1906.
<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>	<i>Gallons.</i>
Russia.....	42,256,738	17,206,175	28,494,794
United States.....	7,628,275	18,737,577	1,795,715
Borneo.....	6,931,291	7,039,812	8,499,198
Straits Settlements.....	8,965,538	12,508,844	9,731,405
Sumatra.....	3,566,619	6,816,991	6,663
All other countries.....	1,222,897	16,363	
Total.....	70,590,858	62,324,762	48,527,775

India's exports of mineral oil during the three years were as follows: 1904, 3,787,677 gallons; 1905, 2,422,589 gallons; 1906, 903,545 gallons. The exports of paraffin wax during these years amounted to 42,940, 63,966, and 61,097 gallons, respectively.

MODERN APPLIANCES.

TYPEWRITERS.

NICARAGUA.

OPPORTUNITY FOR SALE OF LOW-PRICED MACHINES.

Consul F. M. Ryder, writing from San Juan del Norte, states that the demand for typewriting machines in this consular district is limited to the larger business houses and Government offices. He continues:

This is not from lack of interest in its use, but rather on account of the inability of clerks and inexperienced stenographers to purchase machines at present prices, especially in view of the comparatively short time which some of the best machines in the market will continue to do satisfactory work in this climate. The life of the average typewriter on this coast—that is to say, the time during which the work will be acceptable to operator and client—will not exceed two years, even where a machine receives the best of care. There is so much dampness and humidity in the atmosphere that it is impossible to keep the machine free from rust, and it generally becomes completely clogged and is useless.

If it were possible to place upon the market a well-built typewriting machine with all parts made of gun metal or other metal which would be practically rust proof and which could be sold with reasonable profit for \$50 gold or less, I am of the opinion that a considerable number could be disposed of, with the result that typewriting would become more general. At present prices, however, there will be no further demand worth mentioning, as the cost limits the sale to those who can afford the luxury, and these are few.

The market for rebuilt machines would depend altogether upon the machine and the price. I have no doubt but a number could be sold on the installment plan, and in this manner it would be possible to induce clerks and ambitious stenographers to learn typewriting. This would open a field for future sales which would be valuable, providing these secondhand machines could be sold at a price within the reach of prospective purchasers.

HOW TO SECURE TRADE.

As the field has not been worked, it would be necessary to send one of the best American salesmen into the country and establish a permanent agency; one familiar with the Spanish language will prove the most acceptable in the end; one who is capable of demonstrating the superiority of his machine, as well as a good salesman. It is useless to appoint a local agent, who generally is in other business, and expect him to actively push the sales; he accepts the agency as a side issue, or for the purpose of securing a typewriter for his per-

sonal use at as nearly cost price as possible, and may dispose of an occasional one to a customer making direct request for the same.

The active salesman who has had experience in this line in the United States is the only person to organize and carry on a successful campaign for the sale of typewriting machines; a man may have made a success in other lines of business in this country, and be a complete failure in selling typewriters, and it is poor judgment to waste time in the experiment.

In this consular district there are only 20 typewriters in use, and these are in the Government offices and general stores. They are all standard machines of American manufacture purchased in the United States, as there are no dealers in machines or supplies in this locality. The typewriter in use in this consulate has all parts made of gun metal, and, although it has been in constant use for over eight years, and the rubber cylinders and bearing rollers are somewhat worn, it does better work than any other machine which has been used in this climate for two years, showing very little trace of rust, much of the metal retaining its original brightness. This instance is cited for the purpose of demonstrating the durability and adaptability of this particular metal and finish to these climates.

Typewriting machines are on the free list everywhere in this Republic, excepting San Juan del Norte, where they are subject to an *ad valorem* duty of 20 per cent.

PARAGUAY.

HOW TO INCREASE SALES—ESTABLISHMENT OF BRANCH DEPOT.

Regarding the opportunities for marketing typewriters in Asuncion and elsewhere in Paraguay, Consul Edward J. Norton states that very little active work is being done to encourage the use of writing machines or to increase sales. He adds:

The plan of personal solicitation with its accompanying presentation of well-defined argument, showing the need and utility of typewriting machines, is not generally followed here, so that a business man who reaches the conclusion that he requires a machine must go to one of the several agencies in this city and investigate them for himself.

I have noted also that the salesmen for the different firms who carry typewriters are seldom able to handle the machines expertly or even in a manner which would tend to further arouse the prospective customer's interest and increase his desire to possess one. Also the fact that most salesmen are deficient in knowledge of the mechanical features of the machine carried and therefore unable to point out their advantages or give a clear explanation as to the manner of operation is another drawback. When a typewriter is purchased here the sale is effected with little effort, for the simple reason that the purchaser absolutely requires the machine and he takes it to his office and usually learns its operation by experience or experiment.

I am informed that a good opportunity exists here for increasing the sales of typewriters. Some of the methods practiced in the United States, if intelligently adapted to conditions here, might produce excellent results. A sale would undoubtedly result to a business man were an offer made to the effect that his clerk would

be taught how to operate the machine. Free instruction and free practice during a selling campaign here would be a strong point to encourage the use of writing machines.

In this country Asuncion would be the only city where agencies could be established or where a canvass would be profitable, it being the commercial center of the Republic. However, in planning a selling campaign in this part of South America, to cover the ground thoroughly, I would suggest the establishment of a branch depot in Buenos Aires with a stock of the machines and supplies. Prices could be quoted for immediate delivery in Argentine currency, relieving the prospective buyer of being obliged to calculate freights, duty, etc., and also of the possibility of having to wait three or four months for his machine, which would be the case if orders were cabled to the United States.

GOODS IN BOND—TYPE OF MACHINE MOSTLY USED.

Shipments to Asuncion, when marked "in transit for Asuncion," come through the customs both at Montevideo and Buenos Aires in bond. This applies to direct shipments only, but one may be able to import consignments in bond also. Information on the latter point might be obtained from the Argentine and Uruguayan consuls in New York. I am informed, however, that merchandise may be stored in Montevideo in bonded warehouses for a period of twelve months free of cost, and if this information is correct it would appear to favor Montevideo as a location for the establishment of a directing headquarters, as merchants here tell me that goods are handled with quicker dispatch in Montevideo than in Buenos Aires.

The type of machine most commonly used here is American. I have seen several American makes, as well as an English typewriter and a few others of German manufacture. The visible-writing style of machine is preferred.

ASIATIC TURKEY.

DIVERSITY OF LANGUAGES HINDRANCE TO USE OF MACHINES.

Writing from Alexandretta, Syria, Consul Jesse B. Jackson states that people interested in the sale of typewriting machines in Turkey are confronted with a peculiar and complex situation. In the first place, unlike the mother tongues in many other countries, Turkish does not prevail throughout the Empire as the dominant mercantile language. The consul adds:

On the contrary, the majority of the importers and other business men have long since adopted French as the most useful in correspondence with the foreign firms with whom they transact business—English, Italian, German, Greek, Arabic, Turkish, and Armenian—following in the order named. This is particularly true of the coast cities and towns.

Thus a firm doing business of any magnitude must carry on its correspondence in several languages with its numerous clients and patrons of the various parts of this country and Europe. Therefore, if a firm wishes to supply itself with typewriting machines to cover most of the required languages, it is necessary either to purchase one

machine of the removing shuttle or wheel variety, supplied with a separate attachment for each language, or to go to the extra expense of buying several machines of some other mode of construction. According to my observation, one method has been adopted about as frequently as the other, but the high-grade type-bar machines seem to be slightly more in use.

In Turkey the printing of anything from a circular letter to a book can only be done under a permit from the Government. Therefore, typewriters writing Turkish or Arabic are prohibited from passing through the custom-house, and only within recent years have machines writing other languages been admitted. Consequently those firms wishing to push the typewriter business in Turkey should for the present confine their efforts to those languages other than Turkish and Arabic.

The machines most commonly in use in this locality are well-known types of American manufacture and a less number of various machines of European make. It is clear that America has the lead in this line; and, from the praise I have heard from the owners of several of such machines, it is evident that this lead can easily be retained if the least attention is paid to the market by the American manufacturers.

The prices that prevail here appear to be about 25 per cent higher than in the United States, being the home price with transportation and customs duty added, the latter item being 11 per cent ad valorem in all cases.

POSSIBLE MARKET IN BAGDAD.

DEMAND FOR TYPEWRITERS WITH ARABIC CHARACTERS.

Consul William C. Magelssen writes as follows from Bagdad:

There are not more than 20 machines in Bagdad, a city of 200,000 people. These typewriters are of various American makes. They average in price about \$100, while the customs duty is 11 per cent. The language of this section of Turkey is Arabic, and I believe quite a market can be created here for typewriting machines with Arabic characters. This can be done by sending a sample machine to this consulate or to a firm of this city, to be exhibited and tried. The natives of this country will not purchase such a machine unless they examine it and see it work. I am confident that a properly constructed Arabic typewriter could be disposed of immediately upon its arrival and would lead to later orders. There is no market for machines writing European languages. [Name of firm can be obtained from the Bureau of Manufactures.]

GERMANY.

AMERICAN TYPEWRITERS WELL REPRESENTED—SALES CAN BE AUGMENTED.

Consul Samuel H. Shank, of Mannheim, writes that the use of typewriters in that German district is not as general as in the United States. He adds:

This is probably due to the fact that salaries paid to copyists and clerks here are not as large as those paid in the United States, and consequently the saving of time is not so important. It is estimated

that there are in use in this locality about 2,500 typewriters, of which 1,800 are American made. There are different makes of American typewriters, which are sold at retail from \$83.50 to \$148.75. The wholesale price is about 25 per cent less than the retail price. The duty on typewriters is \$14.28 per 220 pounds, which makes the duty from \$1.80 to \$3.10 for each machine.

It would seem that there is a good field here for an energetic agent, especially if a cheaper machine could be sold. The two cities of Mannheim and Ludwigshafen, with a population of 250,000, are growing rapidly and are important centers of commerce. It is impossible to get representatives here, but I believe it will pay to send an energetic American who can speak German and who is familiar with the business and allow him to remain long enough to get the business well established in each place where it is desirable to locate an agency. I believe that anything short of a systematic, energetic business campaign is a loss of time and money.

MADAGASCAR.

HOW TO SUCCESSFULLY SECURE AMERICAN TRADE.

Consul James G. Carter, of Tamatave, writes concerning the use of typewriters in Madagascar, as follows:

The makes of typewriters most commonly used in Madagascar are American. A French machine is used in most of the government offices, either sent out by the French Government at Paris or purchased from a local agent. An English firm here with branches throughout the colony has about 9 American machines. American machines are also used by a German firm at all of its branches, and by the bank, Comptoir National d'Escompte de Paris.

In all there are about 50 machines in the colony. The average business house in Madagascar does not use a typewriter, and a persistent intelligent effort in the matter of introducing American machines to the trade should bring out most satisfactory results.

The duties imposed upon typewriters of American make are the same as those imposed upon American typewriters imported into France, varying according to the material used in the building of the machines.

BRITISH INDIA.

TRADE IN ITS INFANCY—SUCCESSFUL BUSINESS METHODS.

Consul E. H. Dennison writes from Bombay that most all the standard makes of American typewriters are used in that city of British India. He further states:

The local agents generally get full trade discounts, the same as are allowed to agents in America, and the standard \$100 machines sell for 850 rupees, equal to \$114. One English machine retails for \$73. The custom duties imposed upon typewriters of all makes is 5 per cent.

The typewriter trade in Bombay might be said to be still in its infancy; although some agencies have been established for a number of years, there has not been much progress made. I believe that this is due entirely to a lack of proper methods of pushing goods. There

have been several energetic American canvassers in Bombay recently who got out and hustled for business on the American plan, and their efforts were most successful.

FRANCE.

MACHINES GROWING IN FAVOR—A GOOD MARKET.

Consul Charles P. H. Nason, writing from Grenoble concerning the employment of typewriters in that section of France, says:

It would appear that the typewriter is not yet very extensively employed in these parts, although in use. It is fair to say that it is growing in the favor of the general public every day; in consequence there should be good scope for business if properly undertaken and prices are right.

Canvassers for well-known standard American makes of typewriters regularly visit Grenoble and vicinity, but these machines on account of their high price do not meet with the success that a less costly one would be likely to obtain.

SWISS TELEGRAPH AND TELEPHONE.

CONDUCTED ECONOMICALLY AND EFFICIENTLY BY THE GOVERNMENT.

In stating that the Swiss Government owns and operates all the telegraph and telephone lines in the Confederation, Consul R. E. Mansfield, of Lucerne, furnishes the following details as to their management:

The telegraph and telephone service extends to nearly every town and village in the country, and every railway station is supplied with both systems. The service is good and the rates low. They are operated in connection with the postal service, every post-office being provided with telegraphic facilities, and practically all of them with public telephones.

Distances in Switzerland being short, the service prompt, and the rates low, the telegraph and telephones are liberally patronized. Long-distance connections are made with all the local or urban telephone lines, enabling patrons to communicate with all cities and towns in the country. There are also international connections with all the countries bordering on Swiss territory.

A feature of the Swiss telephone service is that in addition to owning and operating all the lines, the Government manufactures all the instruments used, makes the insulations, and controls the business absolutely.

LENGTH OF LINES, REVENUE, AND PROFIT.

The total length of telephone lines in Switzerland is 10,548 miles. The annual rental charge for offices, business houses, and residences is \$12.45 per year. An additional charge of one cent is made for each call in the town. For interurban or long-distance calls the rate is 2 to 14 cents for three minutes, according to distance, 14 cents being the maximum rate for any distance in the country.

The number of telephone subscribers in 1906 was 53,711. During the year there were 32,071,177 local, 7,251,193 interurban, and 299,209

international calls over the Government telephones. The revenue from all classes of calls for 1906 was \$829,732; income from rent on 53,711 telephones, \$668,702. Total, \$1,498,434.

The total length of telegraph lines in Switzerland is 66,683 miles. The total number of telegrams transmitted in 1906 was 4,918,679, of which 2,339,956 were international and 1,698,838 local. The total revenue from telegrams for the year was \$1,596,664.

There is a Government tax of 30 centimes, equal to a fraction under 6 cents American money, on each telegram sent. In addition to this charge there is a universal rate of one-half cent a word throughout the country, distance not being taken into consideration. A telegram of ten words costs only 11 cents. The international rate is 30 cents per word to New York, 2 cents to France, Germany, Italy, and Austria, 5 cents to Spain, 6 cents to England, and 9 cents to Russia. In addition to the foregoing there is a Government tax of 10 cents on each international telegram or cable.

The total income from telephone and telegraph service for 1906 was \$3,095,098; expense, \$2,231,217; profit to the Government, \$863,881. The telegraph and telephone service, like the Government railways and parcels post, are economically administered, the object being to render the best service possible at the lowest possible cost to the people.

SMOKELESS POWDER MACHINES.

GERMAN MECHANICAL EQUIPMENT IN MANY FOREIGN FACTORIES.

Consul Talbot J. Albert, of Brunswick, furnishes the following description of a prosperous German machine industry:

One of the most successful enterprises in Brunswick is the manufacture of machines for the production of smokeless powder. This is a branch of a firm whose regular line of business is the manufacture of centrifugal sugar machinery. The firm has recently received important orders, not only from European but more distant countries, for the equipment of factories for the manufacture of smokeless powder, gun wool, dynamite, celluloid, etc.

In these plants the gun wool or collodion wool is manipulated with a mixture of cotton and sulphuric acid and changed into gun wool, which is the basis for the celluloid and the artificial silk employed in the manufacture of smokeless powder. The firm claims that this process was first made use of by their nitrate centrifugal, which has been so improved that the conversion of the ingredients into smokeless powder takes only one-half to one hour.

FOREIGN ORDERS FOR MACHINERY.

Last autumn the firm received a second order from the Imperial War Ministry of Austria for a complete nitrate plant for the Austro-Hungarian powder factory, Bluman near Felixdorf, similar to the one furnished two years previously. Shortly afterwards an order was received for the complete equipment of the new national powder factory to be erected in Mexico. This year (1908) the firm has received an order from a concern at Lyon, France, for the erection of a large nitrate plant for the manufacture of collodion wool, which

will be employed for making celluloid for photographic films and artificial silk. The French company is a branch of a firm widely known by its invention of colored photographs.

The Brunswick firm recently received an order from the chief of the military committee of Brazil, visiting Germany, for a nitrate plant to be used in the national powder factory which is being erected in that country. The rest of the equipment of this factory has been given to the firm of E. I. Du Pont de Nemours & Co., Wilmington, Del.

The European countries which make use exclusively of nitrate plants furnished by the Brunswick firm are Prussia, Bavaria, France, Austria, Turkey, Servia, Switzerland, and Sweden; also the powder factory at Schlüsselburg, which supplies Russia; the factory at Wetteren, which supplies Belgium; the factory at Amsterdam, which supplies Holland, and all the important factories of Germany. Further, the Brunswick firm has equipped four national factories in China, the National Factory of the Argentine Republic, and the Naval Department Factory at Newport, United States.

FRENCH MACHINERY MARKET.

BEST SALES METHODS FOR AMERICAN MANUFACTURERS.

In reply to a request for general information from an American company manufacturing an important line of elevating, conveying, and mining machinery, Consul-General Robert P. Skinner, of Marseille, repeats that if such firms desire to broaden their export relations in France in a permanent and satisfactory manner it is indispensable that they send competent representatives to investigate the whole question. Mr. Skinner adds:

My private conviction is that a company manufacturing an extensive line of machinery would find it advantageous to organize a branch house in Paris, under its own direct control, or at least to organize a strictly American sales agency in cooperation with a very limited number of other responsible firms willing to share in the expense. There is no doubt in my mind that the particular class of machinery under discussion can be sold in France; indeed American conveying machinery is in general use on the Marseille docks and elsewhere at the present time. Furthermore, the construction of the Marseille-Rhône canal, including the piercing of the Rove tunnel, is bound to create a special market for labor-saving machinery of the type employed in American railroad, canal, and tunnel building. The state engineer in charge of this great work would be glad at this moment to be able to discuss the latest American methods with the qualified representatives of American constructing firms.

LISTS OF DEALERS—CUSTOMS-HOUSE SYSTEM.

For a "complete and reliable list of all the mechanical and industrial concerns and their responsibility" in France the Didot-Bottin Directory, published at Paris, may be consulted. This work is issued in three parts, one being a complete directory of the city of Paris, another a directory for France, and a third a directory for the entire

world. This is revised annually. The price of the complete edition is 34 francs (\$6.56). The responsibility of various firms can be ascertained from American commercial agencies, which now have world-wide connections.

Regarding custom-house formalities, it is generally known that American goods with few exceptions are subjected to the French maximum tariff, this maximum rate being higher than that applied to goods from other countries. To ascertain the rate applicable to American devices it is usually necessary to know their weight and the materials of which they are made. It is usually possible to know with absolute accuracy the rate applicable to any particular object, but at the same time the custom-house rule is to refrain from guaranteeing the amount of duty to be collected in advance of the presentation for entry of the particular merchandise in question. [The Didot-Bottin Directory mentioned is on file in the Bureau of Manufactures. The customs tariff of France has been published by this Bureau and copies are available for distribution.]

CREDIT TERMS—MINING MACHINERY.

Most of the machinery dealers in Marseille, upon supplying reasonable assurances of responsibility, expect a credit of thirty days, dating from the end of the month in which the merchandise has been received, with 2 per cent discount, or sixty or ninety days' credit, according to the terms of the agreement.

Mining machinery has little sale in this city. There is, however, a widespread need for such machinery for the iron and phosphate mines in Tunis. In regard to that market the American consular agent, Auguste J. Proux, may be consulted. There are numerous coal mines in the neighborhood of St. Etienne, where the American consul, Mr. William H. Hunt, is in a position to supply any desirable facts. There are also important mining enterprises near the Belgian frontier. [A list of Marseille parties buying machinery of various kinds which may be of especial interest is forwarded and may be obtained from the Bureau of Manufactures.]

AMERICANS ABROAD.

PERTINENT ADVICE.

CHINA.

PROFESSIONAL, COMMERCIAL, AND SOCIAL CONDITIONS IN THE ORIENT.

In reply to frequent inquiries as to opportunities at coast ports and in the Chinese interior for young Americans, professionally or commercially trained, or otherwise, Consul-General Amos P. Wilder, of Hongkong, furnishes the following information:

It is true that American interests can only be built up in the Orient by having Americans here to push them, and it may seem incongruous for a consul, whose first business is the extension of American trade, to chill the ardor of young Americans whose eyes are turned toward these awakening districts of the globe; yet a frank discussion of the conditions will enable those who insist on coming to know in advance something of what awaits them, while it may deter others, whose oriental experience would only spell disappointment and perhaps worse.

There are not a few Americans holding fair positions in the Orient who would gladly quit if they had the passage money home and a position awaiting them there, and others, who have no regular employment, are steadily going downhill. Making up purses to get "nationals" home is a part of the day's work for men of all countries. If a man is at all unsteady in his habits, or even if he is weak and easily led, he should keep away from the Orient. Freedom from restraint and from supervision, climate, the "chit" system under which I. O. U.'s are substituted for cash in all transactions, expensive sports, gambling, and other dangers combine to undermine young men from other countries. Their number is limited in each community, and they are deprived of the social supervision and uplift of entertainment in good houses. There are American firesides in these cities where the high standards of cordiality and kindly interest of the homeland are conserved; they do what they can for our young men, but the number of such is so small (Shanghai, to an extent, excepted), the life so intense, and the population so shifting, that young men are thrown on their own resources.

PHYSICIANS AND DENTISTS.

In the English colonies access to some of the professions is difficult or impossible for men of other nationalities. The prestige of long residence is of great advantage. Shanghai is open to American physicians as well as dentists. Swatow, Amoy, Foochow, and the other coasts and river ports are a field for any who wish to try them, yet the field is occupied, except as a newcomer may command a Chinese clientele. There are but few foreigners in the best of these

cities. One is not to infer that these communities are bereft of skill in the professions. Bright Chinese and Eurasians are graduating from medical and dental schools, and those from the latter are competing for even the patronage of the foreigner.

There are no restrictions as to the practice of dentistry in Hongkong, where there is a goodly number of dentists. Prices to foreigners are high. Some dentists have made fortunes in the coast ports, especially those who came before competition was so brisk. To offset them there has been a train of young dentists, well enough equipped, but unable to withstand the temptations of the East. Their stories are to be found in every consul's file.

Dentists in practice here bring out assistants under contract for a term of two or three years. While the salary fixed looks large to young dentists at home, the cost of living is high, and the conditions rigid, usually including a provision that the new man, in the event of leaving his employer, shall not practice in the port for a term of years.

In Hongkong, where the requirements for medical practice are on English lines, there are German practitioners, but no Americans. The profession is mainly British and of high standard. In Shanghai the field is more open, and in the Chinese cities there are no requirements. But unless one has appointment as physician to the Imperial Maritime Customs, or like line of sure business, it is not certain he could make a living. The missionary physicians, many of them of large experience and of a high order of ability, care for the foreigners in many places. Kweilin, the capital of Kuangsi Province, is a large city—no one knows how large, but probably 100,000. There is no "foreign" physician of any kind there, and less than a dozen foreigners, all missionaries. When these wish medical advice they telegraph symptoms to Hongkong, the answer comes by wire, and the Kweilin people draw on their medicine chest for the needed drug. The city is the home of the governor and other high-class and intelligent officials. It would seem as if a well-trained American physician would do well there, but the matter should be thought out most carefully. It would take two years to learn the language, and the likelihood is that one who came out, unless he were upheld by a philanthropic purpose, would return, repulsed by the solitude, within six months, or take on the ways of the natives and become one with them. This is even assuming that he could earn a living there, for the Chinese, even the most intelligent, cling to their native practice.

COMMERCIAL LIFE IN CHINA.

There are small contingents of young Americans in a dozen cities of China. Those who are doing best are under contract with some large concern of home management. There are individual concerns in a smaller way, doing an export and import business or engaged in some specialty. National lines are followed quite sharply in the social and commercial life of these cities. The big foreign firms bring out their own young men; their national club is their center. At official receptions the "nationals" mingle pleasantly, but the English, the French, and the Americans know each his own nationals best.

To do legitimate business in the East in these days calls for large capital and expert knowledge. Only a most clever business man could come to the East without connections and with only a little

money and get an independent footing. He has to compete with firms of other nations who have long been schooled in foreign business. He has to deal with the Chinese, who are second to none in business capacity.

The cost of living for a foreigner in one of these ports is beyond anything that an average American can understand. In the United States it is possible for a young man to live quietly in a respectable boarding house, save his money, and eventually own a business. In these parts he must either live with the Europeans or with the natives, and the European mode of life here is very expensive.

The half dozen large American concerns that maintain staffs in these ports select their men carefully, give them some home training, and have them physically examined before they are appointed. Such a coming is different from a start made without a connection, with a vague hope of "finding something" before one's money gives out. In the latter case, nine times out of ten, distress and likely ruin await the newcomer.

CONCLUDING REMARKS.

American engineers and railway experts occasionally get employment in China. The later idea among the Chinese is to employ only their own people in such work, and an increasing number of properly trained young Chinese are presenting themselves. Some of the constructions are financed by English or French capital, and the practice in these is to employ only men of their own nationalities. Trained female nurses can usually find situations, but the life is so different from that at home that, even if they succeed financially, they will not likely be happy. Sir Robert Hart, one of the most successful foreigners who ever came to China, and who has spent his life in the highest positions, dissuades Americans, with their home opportunities, from coming here, and says that had he his life to live over again he would elect a career in his native land.

ADDITIONAL WARNING AND ADVICE.

NO OPPORTUNITIES FOR AMERICANS WITHOUT PREVIOUS ENGAGEMENT.

Consul Wilbur T. Gracey, of Tsingtau, also transmits the following report regarding business opportunities in China as a warning to young men in America who believe that they can secure better positions in the Far East than in America:

I am continually hearing of young men in China who have come from the Occident expecting to secure positions here, and are either stranded, or forced to enter into uncongenial occupations, and believe that a warning should be published in American papers.

China may be a land of opportunity to the business man with money, but any young man who is willing to work will find better opportunities every day in the large American cities. Many young men leave their homes in the United States, ship as stowaways, work their passage to China, or spend their last few dollars for tickets, in the hope of stepping into good positions on their arrival in the Far East, and are surprised to find that all positions are filled.

Most of the positions with respectable firms in China are filled. Each firm which has its business here has an agent in New York, London, or Berlin, as the case may be, and in the event of further

assistance being needed in China, is able through correspondence with agents to secure young men from home who are familiar with the business in which the firm is interested. Most of the large banking, shipping, tea, insurance, and other institutions take young men into their home agencies as students, where they remain for a period of years at no salary, or with merely sufficient to pay their current expenses, and are promoted from the home branch to the house in China.

CUSTOM OF FOREIGN FIRMS.

All of the large British institutions here train their own corps of assistants, and the German and American business firms in the East are more and more following the same course. Before coming to China, these young apprentices are obliged to go through strenuous examinations. They are physically inspected to insure their being capable to withstand the trying climate of the Orient, and are sent to China, with their passage paid, on a contract wherein they guarantee to remain a fixed number of years with the firm. On arrival they are paid what would appear at home an excellent salary, but which owing to the extra expenditures here is in no way excessive. They are also given free quarters, free medical attendance, and sometimes their bills for food are paid.

Usually each firm has a house for its younger employees, where they live together at the expense of the firm. A certain portion of their salary is often hypothecated for insurance purposes, and they are not allowed to marry until they are in receipt of a compensation considered sufficient by the firm, unless they have some private means aside from what they receive as salary. It is because of this long training and knowledge on the part of the firm that they are especially adapted to the work in hand, that they receive good salaries; and it is the rumor of these big salaries, without any knowledge of the particulars attached to the situation, that makes young men in America believe that there are such excellent opportunities here.

SHARP SOCIAL DISTINCTIONS.

If a young man lands from America in Shanghai unknown, it may be safely said that it is impossible for him to secure even a temporary position. After floating about the city for weeks or months he may possibly be taken on as a clerk in a store, or by the Imperial Customs of China on what is known as the "outdoor staff." These men correspond to the customs inspectors in America (they examine all the cargo coming and going), but are given a different social position from that of such a Government employee in the United States. They are not allowed to become members of the social, rowing, recreation, or other clubs, nor do they associate with the young business men of the port.

A strict line of demarcation appears to be drawn in the social life of the Far East between the Government officials, business and professional men, and the "indoor staff" of the customs service, and the "outdoor staff," store clerks, and steamship officers. These latter have their own small clubs, recreation grounds, etc., but their position in the community is such that it may jar considerably on the spirit of a free American boy to be looked down upon by persons having merely a different business status, and who are possibly not so well educated nor of a better family than himself.

HOW POSITIONS ARE FILLED.

Practically every position in the Far East is already filled, or if there is a vacancy it will be filled by some young man brought out by the firm directly from home. The lower positions in business firms, such as office boys, caretakers, etc., are all occupied by Chinese, who can be obtained at salaries that would not be sufficient to keep an American boy in clothes. They are good accountants, can be depended upon to fill clerical positions in a competent manner, and are silent assistants, aware of their position merely as assistants. At home a young man can enter a firm as office boy and if he has ability may rise to the position of manager or owner of the business, losing no position in society from the fact that he began at the bottom.

In China if a man begins in the "outdoor staff" of the customs he may rise to the head of the "outdoor staff," but transfers are seldom or never made from the outdoor to indoor service, so that it is impossible for him to be promoted above a certain grade.

There is only one condition on which any young man should come to China, and that is when he has an assured position or a contract with a firm. It is not sufficient that a friend in China has written that he can give him a position, or secure a position for him. It must be understood what the position really is, what would be the social standing of one occupying it—that is, whether he would be looked down upon by other men in business—and how the compensation is to be paid. Furthermore, it is of the utmost importance that, when an assured position is found, the young man has sufficient physical ability to withstand the peculiarly trying climatic conditions of the Far East.

FLUCTUATION OF PURCHASING POWER.

At the present time money goes no further in China than in any other part of the world, the days of cheap living in the Orient have passed, and when a man is offered a salary of \$100 a month he should find out if the \$100 is in American dollars or in the varying silver currency of China. If the salary is paid in American money he will find that, owing to the exigencies of exchange, in one month \$100 gold will bring about \$180 in local China dollars, while a year later, at a different rate of exchange, it may equal \$250.

When at the latter rate, however, its purchasing power will be little better than the \$180 of a year before, and when the \$100 gold again degenerates to \$180 local currency, as it is liable to do, he finds that the price of everything has advanced and the purchasing power of his money has dropped to its original status. In other words, he is losing \$80 a month. Exchange is the bugbear of the man of limited means in China, and when a man is told that he will receive a certain salary in China he should institute some inquiries along the following lines:

SUGGESTIVE POINTERS.

First, it should be learned if the prospective employer is a man attached to a responsible firm. This can be discovered either from bankers or from any commercial agency.

Second, inquiries from any bank dealing in foreign exchange as to how much the salary offered would amount to in American gold, then subtract 15 to 20 per cent for probable loss by exchange, and figure if the resulting amount would enable him to live respectably in New York. If the salary quoted is in gold dollars, transpose it into Mexi-

can, take off the 15 or 20 per cent and remember that it would be difficult to live on a salary of less than \$200 Mexican a month, even when a house or rooms are provided.

Third, be sure the physical condition is healthy with no liability to stomach or bowel troubles, and if possible consult a physician about the conditions and the diseases of China to which one is liable.

Fourth, if the man has a good position in America, or if he is liable to have one, let him stick to it. Every boy has a better opportunity at home than he will get in a foreign country. There is more need for good men, and more need for ability inside the United States than there is for an unknown man in China.

Fifth, let him be sure that he is strong enough to withstand the temptation to excessive drink. There is a great tendency throughout the Far East to excesses of all kinds, and a much larger percentage of young men are killed by drink in the Orient than is generally known. This may not be a direct death, but continual drinking affects the stomach and bowels, and throws open the doors for the admission of the diseases of the East, with dangerous effects. The temptations to drink overmuch in China are infinitely stronger than at home, a custom of continuous drinking being prevalent throughout the entire East.

Finally, he should remember that he is giving up a great many of the best opportunities of life in coming to the Orient. There is no opportunity for education here, no theaters, no good music, no lectures, no educational institutions, no technical or other schools, no free libraries, no magazines or other good literature, except what comes from home a month late, and the social life is entirely different from anything at home. Unless a man or boy is perfectly certain that the compensations are worth all this he had much better stay away.

BRITISH SOUTH AFRICA.

MEDICAL PROFESSION GREATLY OVERCROWDED—NO ROOM FOR OUTSIDERS.

Replying to an inquiry from a young man about to graduate from an American college, who wished to begin his professional career in the Transvaal, Consul John H. Snodgrass, of Pretoria, writes as follows in regard to conditions in that colony:

During the past few years a number of physicians with American degrees have made inquiries about the opportunities presented for the profession in this consular district, they having read in the newspapers and magazines the word-paintings of optimistic writers and become imbued with the desire to engage in practice here.

To each and every one the reply has been: It is necessary for any practitioner wishing to establish himself in South Africa first to secure a degree from a medical school within the confines of the British Empire. It is a strict law that prohibits all outsiders from entering British South Africa to engage in the practice of medicine or dental surgery. It is true, though, that a few American doctors who practiced in the Orange River Colony and the Transvaal before the Anglo-Boer war have been permitted to continue their practice, but these exceptions are not numerous.

whole of British South Africa there are not over 1,000,000 people, 300,000 of whom are living in the Transvaal, but since

the intense financial depression that has hung over this country for the past year and a half, there has been a great exodus of the white race from every colony, while the Asiatics have been pouring into some of the coast provinces by the thousands. Instead of welcoming an increase in the medical profession, the Transvaal Medical Society is using every endeavor to prevent the uninitiated from coming among them.

WARNING TO OUTSIDERS.

In spite of the fact that the Rand (the gold fields of Johannesburg) lives and dies more rapidly than any other part of the country, its white death rate last year being 18.01 per 1,000, as against 10.97 per 1,000 for the outside districts, the physicians there find that the field is overcrowded. As the population diminishes there is an increase in the medical profession relatively too great. There has been a great influx from oversea, and in addition to this it is noteworthy that an unusually large proportion of South Afrikanders take to medicine and law.

The membership of the Transvaal Medical Society, which contains the names of all who are permitted by law to practice, numbers about 390. Many of these practiced here before the war, and a few, as was noted above, who were educated in Europe or America, are still on the ground and have not been ruled out by the rigorous law of the Empire. The white population of the Transvaal is perhaps a little less than 300,000, so that there is more than 1 doctor to every 1,000 persons. Allowing for natural differences, such as the fact that the country doctor in South Africa has to deal with great distances and a sparse population, the ratio is greater than in any other country.

It would not, therefore, be wise for anyone educated in an American medical school to go to the trouble of securing a British degree in order that he might practice in one of the South African colonies.

GERMANY.

AMERICAN ASSISTANT DENTIST SECURES AN ABROGATION OF CONTRACT.

According to Consul-General Richard Guenther the district court at Frankfort recently rendered the following interesting decision in a suit between American dentists practicing in that German city:

A firm composed of two leading American dentists here about eight years ago had taken an assistant, contracting with him that in 1908 he would be admitted to the firm as a member upon certain stipulated conditions, among which was the payment of a considerable sum of money. Should he fail to fulfill the contract, the assistant was not to be allowed to practice dentistry for the next two years within a radius of 100 English miles from Frankfort unless he paid to the firm 30,000 marks (about \$7,000).

The assistant, after unsuccessful negotiations with the firm to permit him to practice on payment to them of a lesser sum, brought suit in the district court for the abrogation of the contract, claiming that such stipulations for preventing competition were against good morals and public utility. He rested his claim upon a decision rendered in a similar suit between authorized dentists by the supreme

court of the Empire (the highest legal tribunal in Germany) which had so declared.

The district court adopted this view and decided in favor of the plaintiff, holding that it is against the public interests when a dentist in his feeling of responsibility, incumbent upon the exercise of his profession, is handicapped by stipulations which treat the professional activity from the point of view that it is solely a money-making matter. Stipulations of this sort must therefore be considered as being injurious to the public good and, for this reason, they should not be sustained.

This decision will give satisfaction to the public at large, as well as to aspiring American dentists. Germany and other European countries offer excellent chances of success to dental graduates. American dentists in good practice in the leading European cities have a larger professional income than their colleagues who practice in the United States.

COLOMBIA.

SLIGHT OPPORTUNITIES FOR YOUNG AMERICANS WITHOUT CAPITAL.

Consul Isaac A. Manning, of Cartagena, is in receipt of letters from various young men who are graduating from American colleges of engineering, inquiring as to opportunities in engineering lines in Colombia, which leads him to offer the following general advice:

I would strongly advise anyone desiring employment of this nature in the Tropics to place himself in touch with the exporters of machinery, etc., at New York, Boston, Philadelphia, and San Francisco, and any other cities where applications would be made for such men, but to refrain from coming to these countries seeking employment, unless well supplied with capital. Occasional opportunities offer, but they are not common, and I have seen too many good men stranded in these countries who could find no professional work to do, and were unable to compete with the laborer of the country in ordinary works.

It is therefore suggested that no one should come to tropical America for employment without a previous contract, and, further, a good knowledge of the language spoken in these countries. The need of carrying a United States passport, for purposes of identification as to citizenship, should also be better understood by citizens of the United States going abroad. Under the new immigration regulations agents for steamship lines here require absolute evidence of one's American citizenship, or they refuse to sell ticket for return to the United States without collecting the immigration tax.

RUBBER.

CULTIVATION AND OUTPUT.

NORTH BORNEO.

VARIOUS CLASSES OF LABOR AVAILABLE FOR ITS CULTIVATION.

The following information concerning British North Borneo estates devoted to the cultivation of Para rubber, the cost and kinds of labor, and the adaptability of the soil to the industry is furnished by Consul Lester Maynard, of Sandakan:

British North Borneo is divided geographically and ethnologically into four portions viz: (1) The East Coast, comprising all land, from Cowie Harbor on the south to Paitan Bay on the north, and extending inland as far as the sources of the Segama, Kinabatangan, Labuk, and Sugut rivers; (2) the Kudat District, comprising all land from Telaga to Sampanmangaio Point; (3) the West Coast, from Sampanmangaio Point to Mengalong and extending as far inland as Sungei Rayoh; (4) the Interior, from Sungei Rayoh to Tambunan on the north, Tomani on the south, and Labau on the east.

The soil of British North Borneo equals, if it does not actually surpass, that of the Federated Malay States, and is about the same as that of Sumatra. The cost of labor is as low as that of any place east of Ceylon, and the climate is well suited to the cultivation of Para rubber, judging by growth thereof in such widely different spots as Sandakan and the interior.

The Chartered Company of British North Borneo has issued a notification guaranteeing that no export duty will be assessed on plantation-grown rubber for fifty years from April 1, 1905.

EAST COAST.

At present Para rubber is cultivated at one place only on the East Coast, at the head of Sandakan Bay, and here it appears to be doing well.

Practically all estate labor on the East Coast is imported indentured labor, the men being brought from Singapore, and costing landed in Borneo \$36.40 (all values throughout this report are given in United States currency), per head for Chinese, and \$42 per head for Javanese and other Malays. Of these sums, \$16.80 and \$26.88, respectively, are recoverable from the coolie, leaving the balance to be written off as brokerage. The Chinese contract is for one year and the Javanese for two years.

Chinese have so far been used on tobacco estates only, where they are paid at a fixed rate per thousand stalks of tobacco delivered in the drying sheds, and under this system they provide a fine labor force, but they would not perhaps do so well on daily wages on a rubber

estate. They will, however, prove the backbone of that industry as soon as a system of payment by result can be introduced.

Javanese have a contract specifying that they shall fell jungle, make buildings, and drain at usual local rates. When on daily pay they receive from \$3.92 to \$5.60 monthly, according to their abilities.

The natives of the East Coast are Sulus, Bajaus, and Orang-Sungei. The only form of work these people attempt is the making of leaf covering for houses, and even this is chiefly carried on by their women folk.

THE KUDAT DISTRICT AND THE WEST COAST.

In the Kudat district tobacco is planted in five estates, one of which has commenced to plant rubber. The Langkon, worked for many years as a tobacco estate, has now ceased to plant that product, and having been recently purchased by a rubber company, is being planted with Para rubber.

In this district the bulk of the work is done by imported indentured labor on the same terms as on the east coast. The Bajau does nothing, but the Dusuns of the district are industrious and can be relied on to work well for short periods at a time. Work on a rubber estate should prove congenial to them, and they will probably form the chief labor force of all rubber estates opened in the Kudat district.

The west coast is a well-populated country, with at least three hard-working races and three others of mixed qualities, but out of whom a very fair amount of work can be obtained with patience. The Tuaran Dusuns, the Papar and Putatan Dusuns, and the Ling-kongan Kadyans may be put in the first class and the Bajaus, the Bisaiyahs, and the down country Murut in the second class. The Dusuns of Pandassan and Tempassuk and the semi-Chinese natives of Bundu are also industrious, but seem loth to leave their own country, where they are indeed well enough off.

There are three rubber estates now opened on the west coast, and all these are situated in the neighborhood of Beaufort. The first opened were the Beaufort and the Woodford estates. Some 4 miles down the Padas River, on the Beaufort-Weston Railway line, is another estate. All these properties are connected with the port of Jesselton by the Beaufort-Jesselton Railway. These three estates have ample command of free labor. On one estate from October 1 to December 31, three months, the rainfall was 51.39 inches, which seriously interfered with the operations. Some of the Para rubber trees planted there in March, 1906, have now attained a girth of over 9 inches 3 feet from the ground, and are from 25 to 30 feet high.

The following are about the rates now being paid for contract work on rubber estates at Beaufort per acre: Jungle felling, \$1.68 to \$3.36; jungle felling, lopping, stacking, and burning clean, \$5.60 to \$7.28; if holding be also included the rates would be \$7.84 to \$8.40.

THE INTERIOR.

In the interior there are two estates, both of which were opened for tobacco, and one of them still plants this product in addition to Para rubber; the other plants Para rubber only, tobacco having been abandoned after one year's trial. One of these estates is 5 miles by cart road and the other 12 miles by bridle path from the present Tenom terminus of the Jesselton-Tenom Railway.

On these estates the greater part of the labor force is indentured Chinese and Japanese, but it is also supplemented by Tuaran Dusuns, Papar Dusuns, and Bajaus. The Murut is also of considerable use to estates, but, like the Kudat Dusuns, he will not work for more than a fortnight at a stretch.

The Kaningau Muruts and the Tambunan Dusuns are very hard workers, and the villages of the latter are thickly populated, but they, like the Tempassuk and Bundu people, are not fond of leaving their districts. Some day they may be found a useful labor asset.

Indentured labor is, if anything, cheaper than free labor, if the original brokerage and the losses by death and desertion are not taken into account. The great point in favor of this form of labor, and the one which makes it essential to tobacco estates, is that it is absolutely reliable.

RUBBER IN DUTCH TERRITORY.

According to a Far Eastern journal, rubber growing and its possibilities begin to attract attention in Holland. Two companies in that line of cultivation have just been floated there. One of them, with a capital of \$94,000, aims at planting in Netherlands India, the other will set to work in Siak, a district in East Sumatra. This latter company is capitalized at \$80,400.

KONGO FREE STATE.

NO INCREASE IN OUTPUT—PLANTATIONS FOR CONTINUING SUPPLY.

Consul-General James A. Smith, writing from Boma, gives the following comparisons of rubber production in the Kongo Free State with that of other countries:

The most recent figures which I have been able to obtain give the world's production of rubber for the season 1905-6 as 68,000 metric tons (metric ton=2,204.6 pounds), in which Brazil was easily first with 41,000 tons. Bolivia, Central America, and Mexico gave a combined total of 1,800 tons, Africa 23,400 tons, and the balance came from Asia and the East Indies. Of the amount obtained in Africa the Kongo Free State gave the largest quantity, with a production of 4,500 tons, French Guinea 1,500 tons, Angola 1,250, and the Gold Coast 1,000 tons. These figures are for the fiscal year ending June 30.

The Kongo Free State is producing and exporting a trifle over 4,800 metric tons of rubber annually. For the calendar years 1904, 1905, and 1906 the exports were 4,830, 4,861, and 4,848 tons, respectively, valued at \$8,491,341, \$8,444,889, and \$9,358,436.

For 1907 the figures are not as yet at hand, but I have it on good authority that they will vary but little from those of the preceding years in the quantity produced. The market, however, has been less active during the closing months of the year, and the average price received during 1907 will doubtless show a decided falling off from the exceptionally high prices of 1906. Various causes are assigned for this: A steady increase in world's production, and, recently, of stocks on hand; the monetary crisis in the United States; the difficulties in which a large number of automobile manufacturers have become involved through overproduction, with the consequent lessen-

ing of the demand from this industry, one of the largest consumers of rubber, are a few of the reasons given.

COMPETITION OF GUAYULE—TAPPING ORDER.

One authority informs me that the large production of Mexican guayule rubber was the basic factor in the recent sharp decline in price, and, in his opinion, early recovery to the high level of the past three years was not probable, owing to the unusually large output by improved machinery of the Mexican product, which was of good quality and practically inexhaustible. A Brussels paper published recently a résumé of an article by a German authority in which quite the contrary opinion was expressed, it being stated that the hopes entertained as regards the guayule rubber had not been realized.

While the annual exportation from the Kongo has shown no diminution during the past few years, there is no question but that in many sections of the State the supply of wild rubber has rapidly diminished and in a large section of territory is practically exhausted. This condition, it is said, is in a large measure due to the ruthless cutting of the vines and trees by the native gatherers, a method which insures a quicker and more copious flow of the latex, but which entirely destroys the plant.

The law provides that the rubber must be gathered by means of incision of the vine or tree, thus preserving them for future supply, but in practice it is impossible, except in a small way, to control and enforce this wise provision over the immense expanse of territory producing rubber.

GOVERNMENT REQUIREMENT FOR REPLANTING.

To counterbalance this continual lessening of the supply of wild rubber the State has, with admirable foresight, enacted laws, obligatory alike upon its own agents and the concessionary companies, providing for the replanting of vines and trees, the number of plants corresponding with the quantity produced. Thus, at present, for every ton of rubber gathered the producer must lay out 500 young plants. How far the terms of this law are being strictly adhered to I can not say, but at all of the State posts visited during my recent trip to the Upper Kongo I found in the immediate vicinity plantations of from 125 to 200 acres laid out, and the young plants appeared to be in most cases in a flourishing condition.

It has been proved by experiment that the variety of rubber tree known as the "Funtumia Elastica" thrives better under cultivation here and gives much quicker results than the various varieties of vine rubber. The quality is excellent, and the young trees become paying producers in about 7 years. Ordinarily fully double this time is required before the vine yields in sufficient quantity to be profitable. On none of the plantations I visited had the oldest trees been laid out more than three or four years, and some time must necessarily elapse, therefore, before definite results will be obtained.

PLANTATION STATISTICS.

At present it is estimated that fully 13,000,000 plants have been set out capable of producing within a few years, and at a low estimate, 650 tons annually. Independently of this successive planting the State has established three grand centers of rubber cultivation,

each of 250,000 acres. These centers have been located in the Mayumbe district, near Banza (Lower Kongo); in the Ubangi district, near the post of Duma, and in the Lualaba-Kasai, between the posts of Katako-Kombe and Lodja, in the forests of the upper Lukenie. A calculation made of the probable production of these centers alone shows that one-third of the area allotted, or 250,000 acres, will be planted during the next six years, with an average of 260 plants to the acre, or a total of 65,000,000 plants, yielding, at a low estimate, 50 grams each, of 3,250 metric tons annually.

When the entire area of 750,000 acres provided for is planted, the yield after six years is expected to be 9,750 tons annually, or nearly double the present production, and this without calculating the 13,000,000 trees already started, nor the number constantly being planted under the terms of the law. The carrying out of these undertakings necessarily involves much time and labor, but if successfully pushed to completion the danger of ultimate exhaustion of the supply would appear to be entirely obviated. Certainly, under no other conditions can the supply, notwithstanding the richness of some sections in wild rubber, be permanently counted on.

MEXICO.

GUAYULE RUBBER PLANT BEING EXHAUSTED FOR ELASTIC SUBSTANCE.

Consul Clarence A. Miller, of Matamoras, quotes a Mexican prediction that, unless something is done by the caucho rubber factory interests, guayule will be exterminated in Mexico in less than five years. The statement continues:

Many caucho factories have been profitably established, one of which, with a capital of \$12,000, in one year produced \$700,000 worth of caucho rubber.

A species of guayule produced abundantly in Chihuahua and Coahuila gives 10 per cent pure caucho. Ten tons of the guayule, roots and all, makes 1 ton of caucho, which sells for a trifle over \$2,000, the guayule costing about \$100. Good profits are made when only 4 per cent is obtained. The residue which most producers throw away has been found to contain a splendid grade of caucho, containing as much as 4 per cent, and for this reason a German method has been introduced which has proved to be superior to others. The Indians formerly used a very primitive method, which consisted of grinding the plant between two stones under a stream of water in order to separate the elastic material for the manufacture of balls. The children also used the plant for chewing gum.

BRITISH INDIA.

TAPPING OF TREES ON GOVERNMENT PLANTATIONS IN BENGAL AND ASSAM.

Consul-General William H. Michael, of Calcutta, finds that, according to the official report, the working of the government rubber plantations in the Kamrup and Darrang divisions of the forest department in Eastern Bengal and Assam during the year ending June, 1907, yielded the following results:

In the Kulsi plantation in Kamrup 66 acres were worked over, 3,981 trees were tapped, and 2,708 pounds of rubber were obtained,

the yield of rubber averaging about two-thirds of a pound per tree. Practically the whole of the year's crop was taken by a Calcutta firm at 90 cents per pound, the net profit, after deducting cost of tapping and harvesting, working out at 79 cents per pound on the year's crop.

On the Chauduar and Bamuni Hill plantation, in Darrang, 422 acres were worked over, 5,963 trees were tapped, and 6,962 pounds of rubber were obtained, the yield averaging 16.5 pounds per acre, against 25.6 pounds in 1905-6, the decline being entirely due to the unfavorable season. Of the total crop, 6,923 pounds of rubber were sold locally at \$6,358, or 90 cents per pound, giving an average net profit of 68 cents per pound after deducting cost of tapping and collecting.

MANUFACTURES IN ITALY.

FIELD FOR AMERICAN STOCK—NATURE OF THE COMPETITION.

Consul James E. Dunning, of Milan, in answer to an American inquiry forwards the following report, made by Clerk Siersdorfer of his post, on the Italian rubber-goods trade:

There seems to be a good opportunity for the American manufacturer of rubber articles to place his stock in Italy. There are about ten native manufacturers who supply a small part of the general demand for industrial articles. The Italian demand for this stock is comparatively small at present, and has always been so, on account of it being considered a luxury in Italy and only the richer class have been able to buy it. Every other cheaper material has been substituted for rubber when possible. Therefore rubber goods are not as universally used at present in Italy as, for example, in the United States, although the demand is increasing with the Kingdom's general progress.

Italy will probably import from now on not less than \$3,000,000 worth of rubber goods annually. The amount depends on the success of Italian factories to turn out stock able to compete in price with that imported. They are making strong efforts to do so at present, but have not as yet succeeded in decreasing imports, which, on the contrary, are steadily increasing, as is shown by the following table of Italy's rubber goods imports in recent years, in tons:

Countries.	1906.	1905.	1904.	1903.	1902.
Germany.....	431	347	237	268	190
France.....	389	252	172	114	89
Great Britain.....	160	112	90	85	67
Switzerland.....	29	14	19	12	13
Other countries.....	111	96	65	76	68
Total.....	1,120	821	583	553	426

GERMAN LEADERSHIP—OVERSHOE TRADE.

As will be noticed by the statistics, the largest amount of stock is imported from Germany, which trade is constantly increasing. The imported German stock is the same as that manufactured in Italy, but German manufacturers successfully compete with Italian manufacturers by making their prices lower. The local market has not

arrived as yet at a state where it regards quality as essential. This time is not far off. Until then continental manufacturers will be kept busy selling to Italy their overstock. Italian manufacturers consider the Germans naturally their keenest competitors in the market and find that nearly every article turned out by them is offered by such firms at a lower price. As in practically all other lines, the German manufacturers have established agencies throughout Italy who offer stock on the ground to Italian buyers, letting them pay for it when convenient. The German firm always gets its money. Thus the American manufacturer would find the German to be his strongest and ablest competitor in this market.

Rubber overshoes have hitherto been largely imported into Italy, local makers being unable to conveniently manufacture them. Large quantities of American rubbers have been sold on this market, as well as German and English. Recently a local concern started their manufacture, the first attempt in Italy. It remains to be seen whether he can compete with foreign stock of this kind in his own market, which is doubtful. German manufacturers have the important advantage over Italians that they turn out stock in much larger quantities, as do American firms.

FRENCH AND ENGLISH SALES—ADVICE TO AMERICANS.

Italy's next most important source of rubber goods supply is France. Children's toys form the bulk of these imports. Italian manufacturers are beginning to manufacture this stock, but the French article is preferred on account of its superior finish and variety. German manufacturers make few efforts to compete with the French in this article. This is a good part of the trade for Americans to take hold of.

Great Britain is Italy's third largest source of supply. Waterproof clothes form the bulk of these imports. When buying stock of this kind the Italian purchaser generally asks for English makes, partly on account of their good quality and partly on account of their reputation.

The imports from Switzerland appearing in the table should really be accredited as coming from Germany, for the stock is generally bought from German firms by Swiss brokers and reshipped to Italy. This may be confirmed by the fact that there are practically no rubber manufacturers in Switzerland.

The American exporter may therefore perceive that the only real competitor in opening up a trade with this country would be the German manufacturer. Rubber goods bearing any foreign mark are generally preferred. Manufacturers of the United States can be assured that there is a promising field here. The increasing Italian demand and the inability of native firms to reduce imports should encourage the American trade.

WILLINGNESS TO IMPORT AMERICAN GOODS—ACTIVE DEMAND.

In regard to American export conditions the consulate can only repeat that the manufacturer should be as lenient as possible with the Italian importer. If the exporter can not conveniently establish an agency in Italy with an American at the head of it, the next best step is to appoint a representative. Catalogues, price lists, etc., should

be sent him. A list of general representatives ready to import American stock has already been forwarded to the Bureau of Manufactures, from which exporters can choose a representative by corresponding with a certain number of them.

To further impress upon the minds of the American exporters that there is a good opportunity for them in Italy, it may be said that in careful conferences with various important local importers of American goods they expressed to the consulate a strong desire to get in touch with American manufacturers, stating that they were convinced that good profit could be made in Italy.

Italy's imports of rubber goods amounted to \$2,192,538 in 1906, an increase of \$485,472 over those of 1905. The value of imports in 1900 was \$602,174. During the first eleven months of 1907 imports amounted to \$2,640,421, or 1,216 long tons, an increase of \$573,714, or 173 long tons, over the same period of 1906. To these imports must be added 126,000 pair of rubbers, amounting to \$132,533, an increase of 20,300 pairs, valued at \$21,353, over the same period of 1906. The bulk of these rubbers came from the United States and Germany, each country exporting about the same quantity. This, together with the figures at the beginning of this report, show how the Italian demand is increasing. It is widely stated that it will continue to increase.

RAW RUBBER IMPORTS—LIMITED EXPORTS—DUTIES.

Italian imports of raw rubber increased from 766 tons in 1905 to 1,073 tons in 1906. During the first eleven months of 1907 the imports amounted to \$2,277,641, or 944 long tons, a decrease of \$314,108, and of 130 long tons, from the same period of 1906.

Italy is not entirely without exports of rubber goods, a small quantity going to Argentina and Spain. These exports show a slight increase. They are not to be considered important, as practically all the stock is imported by Italians in those countries who prefer to buy from home. It should not be inferred that Italy is in a favorable position to export.

Catalogues of native and German firms, stating prices, which are subject to special discount, etc., accompany this report. These catalogues will help to show the American manufacturer interested in placing his stock in Italy what he will have to compete with. [They will be loaned to the American trade by the Bureau of Manufactures.]

The duty on rubber articles entering Italy may be stated as follows:

Crude rubber, free; rubber sheets and articles of cut rubber sheets, \$11.58 per 220 pounds; rubber cords, \$14.47 per 220 pounds; rubber tubes and sheets combined with wire or metal gauze, \$7.72 per 220 pounds; other articles of rubber, including those of hard rubber, but excluding those combined with textiles or metal, \$9.65 per 220 pounds; rubber articles of any form combined with textiles, except gummed tissues in the piece and articles of apparel and traveling accessories, \$11.58 per 220 pounds; rubber trimming, ribbons, and elastic tissues, \$25.09 per 220 pounds; insulated electric wire and cables, \$9.65 per 220 pounds.

FORESTS.

UTILIZATION OF PRODUCTS.

ASIATIC TURKEY.

CAUSE OF THEIR DISAPPEARANCE—KINDS OF TREES FOUND.

Consul Ernest L. Harris, of Smyrna, writes as follows concerning the depletion of the forests of Asia Minor and its effect on the country at large and on the market for lumber products:

The trees of which the forests of Asia Minor are composed are the fir, pine, cypress, cedar, juniper, birch, chestnut, oak, plane, poplar, linden, beech, elm, ash, and willow. The old forests have disappeared and the tendency of nature to prepare the soil for a second growth is being continually defeated. As no industry has ever laid claims, to any great extent at least, upon the forests of Asia Minor, their disappearance can be attributed only to the demand for firewood.

Fir and pine forests now exist in this country only on the high plateaus or mountain ranges, such as the Paphlagonian mountain range, which is located toward the shores of the Black Sea. In this region the rainfall is greater each year than in the vilayet of Smyrna. Beech, plane, and elm trees also thrive in this section, in the valleys and plains. In Armenia there are large forests of red beech, walnut, oak, and chestnut. There are said to be forests of large beech trees in the country back of Trebizond, at some distance from the coast, and in the Ak Dagħ Mountains near Amasia. It is also said that there are forests of tall pines not far from Angora. Between Smyrna and Konia there are no forests of importance. The Tmolus Range is covered with fir and pine scrub, and the same is true, more or less, of the Salbaccus Range at Denizli. It is nothing but thicket or undergrowth, as far as I have seen, and is used chiefly in burning charcoal.

OTHER VARIETIES OF TREES.

The willow tree, which grows well in some parts of the country, especially near Angora, is to some degree protected from the inhabitants on account of the shade it affords in summer and because it grows rapidly and is supposed to act as a preventive against fever. The whiplike branches are often woven into beehives. The poplar is frequently found in large groves scattered about the countryside, and is used chiefly in constructing houses in the Turkish villages. The oriental plane tree is found all over Asia Minor, but seldom in groves. They usually stand alone along the roadways and serve the traveler as halfway stations, where he finds some protection from the summer sun and a fountain. These trees also add considerable to the scenery of the country. They grow to be several hundred years old, and often attain such size that shepherds have been known to cut huts in the trunks of the standing trees; and their

vitality is so great that they continue to live for years thereafter. The plane is also a favorite shade tree. Smyrna has none, but Constantinople and the little valleys leading away from the Bosphorus, as well as most cities and villages in the interior, have large numbers of them. The Turks are fond of having them in front of their cafés and in the yards of their mosques.

The oriental cypress is a stately tree, which grows to exceptional size in Turkey, and especially along the coast of Asia Minor. It is revered by the people and is planted in groves in every Turkish cemetery. These trees are an ornament to the country, and no Turkish landscape is complete without them. In the old cemetery of Smyrna the grove is several hundred years old, and an ancient stately cypress keeps watch over the tomb of Polycarp.

In various parts of this vilayet a certain kind of scrub oak flourishes, upon the leaves of which the gall wasp lays its eggs. These eggs become secreted in the cells of the plant, and after a time form excrescences the size of a berry, called gallnuts, from which a winged insect finally makes its way out and escapes. The nuts are green and white in color, and some 3,000 to 4,000 sacks are shipped to England, Germany, and Austria every year. Some gallnuts are exported to America for the purpose of making ink, but only small quantities are shipped from the port of Smyrna. In 1907 the value of the shipments to the United States was only \$4,380.

CUTTING THE TIMBER—WASTE BY NOMADS AND SHEPHERDS.

In the opinion of experts the quality of the timber in Asia Minor is good. The State reserves to itself the control of the forests at all times, but there does not appear to be any system of forestry in this country, with the exception of a few experiment stations laid out near some of the railways which lead into Asia Minor. The peasants are permitted to chop and burn freely. A Government permit is necessary only in case timber is to be exported.

The owner of some forests near the headwaters of the Boli Su River, who holds a permit to export timber, has given me a description of the manner of obtaining lumber in that region. Along most of the rivers which flow into the Black Sea there are many primitive sawmills, only a few of which are equipped with steam engines. The logs are dragged down the mountain side by horses and oxen, and rafted down the Boli Su to the mills, where they are sawed into lumber for shipment to Constantinople or other parts of Turkey. Lumber is transported on the Black Sea usually in sailing vessels.

Peculiar wandering tribes, who in winter house themselves and their flocks in timber huts, have done considerable harm to the forests of Asia Minor, especially in the vilayet of Smyrna. In order to obtain the necessary logs, or poles, for building their huts, they help themselves to any unprotected timber in the neighborhood. Shepherds attending flocks are also wasteful of timber, building fires of whatever trees are at hand.

EFFECTS OF THE FOREST DEPLETION.

The disappearance of the forests in this country, especially in the vilayet of Smyrna, has been marked by greater degrees of heat and cold. The date palm has practically become extinct in these

parts. In the winter and spring there are usually floods, which are destructive to life, property, and crops. In the summer there is not sufficient moisture in the soil of many districts, for the reason that the rain passes away at once down woodless ravines, without being absorbed by the ground. As a result large tracts have become sterile. Creeks and brooks which formerly retained considerable water, even in the heat of summer, are now completely dried up a few weeks after the spring rains. These same creeks and brooks are becoming deeper each year by the process of floods, so that not only is the surface of the country greatly disfigured, but no bridges can be built strong enough to withstand the annual rush of waters. It thus becomes impossible to get the crops and fruits to market at the proper time.

Crop failures and famine in Asia Minor may therefore be traced to the lack of forests. The past year serves as a good example. The rains of January, 1907, were the heaviest known in this vilayet during several seasons. The floods everywhere in the Hermus and Meander valleys were greater than for forty years. Cold weather set in soon afterwards, and for three weeks the thermometer stood at 5° F. above zero. The unpicked orange crop, ripe at that time, was destroyed, and the effects are being felt this season by a great shortage in oranges. Nearly every pepper tree in this vilayet was killed. There is a grain famine throughout Asia Minor, and wheat and barley, ordinarily products of export from this vilayet, are not now allowed to be sent out of the country. In other words, a country which usually produces not only sufficient grain for its own use, but large quantities for export, is now compelled to purchase these products in the markets of other countries.

USES FOR WHICH TIMBER IS REQUIRED.

In the vilayet of Smyrna there can never be a lumber industry. The forests in the interior of the country can not supply the demand until railways have been built to them. The needs of Smyrna in this respect, and of the whole region known as the old Ionian Peninsula, are the opportunities of other countries which are in a position to supply the demand. In 1906 some \$600,000 worth of lumber from Roumania, Austria, Norway, and America passed the Smyrna custom-house. The railways use considerable quantities of the up-country product for ties, etc., but the supply is limited. The Aidin Railway imports from Pensacola, Fla., lumber for building freight cars. The railway management has constructed large sheds for the purpose of perfectly seasoning this timber.

Wood torches are used to a great extent in the villages of the interior for house and street lighting. Petroleum and candles have not found their way very far into Asia Minor. In this country, where everything is primitive, wood takes the place of iron, especially in the case of wagons and agricultural implements. Basket weaving, as in some parts of Bohemia and Italy, is a favorite house industry. Nearly all the bridges in the country, apart from those belonging to the railways, are built of timber.

The demand for timber of every description in Smyrna may be briefly stated as follows: Boxes and cases for the fig and raisin industry, in season; hard-wood and other lumber for flooring; mahogany and walnut for furniture and cabinetmaking, picture frames, and wood ornaments. Many kitchen utensils are made of wood, and

the carts and even the wagons used throughout the country are usually made of imported lumber. The average size of all lumber imported is about 15 feet long, 3 inches thick, and 10 inches wide. Timber must be well seasoned in order to withstand the extremes of heat and cold common to this country. There are a few sawmills in Smyrna which make a business of sawing and planing imported lumber into the sizes desired by the local trade. All furniture, doors, windows, and parts thereof are made by hand. There will always be a good market in the vilayet of Smyrna for American lumber, especially that from the Southern States.

NICARAGUA.

GOVERNMENT CONCESSIONS FOR GATHERING TWO FOREST PRODUCTS.

Consul Frederick M. Ryder, of San Juan del Norte, reports that a contract has been entered into between the Nicaraguan Government and R. J. La Villebeuvre, a resident of Managua, which disposes of the gum of all "tuna" trees located in the national forests of the Republic. In reviewing the concession and the previous efforts to utilize this gum, the consul quotes Article I of the contract, which reads as follows:

For the purpose of installing and developing a new industry in the country, the Government concedes to Mr. La Villebeuvre, his heirs, assigns, or associates, the exclusive privilege, for twenty years, of extracting and utilizing the gum of the tree generally known as the "tuna" or "gutapercha," on all national lands in the zones comprising the districts of Cabo Gracias á Dios and Prinzapolka, the Department of Jinotega, and that portion of Neuva Segovia situated east of eighty-sixth meridian, as designated on the Government map published in 1895.

The Government is to receive 2 cents for each kilo (2½ pounds) of gum extracted, whether it is disposed of in the country or exported. The concessionaire has the privilege of importing, free of all duties, during the life of the contract, such machinery, tools, chemicals, and everything that is necessary for the establishment and maintenance of the new enterprise. He may also transfer his concession to individuals or a syndicate for exploitation, but under no circumstances to a foreign Government.

DESCRIPTION OF THE ARTICLE.

The "tuna" belongs to the "balate" family and resembles the zapote tree, from which chicle is extracted. The species is indigenous to this locality, being particularly numerous in the Cabo Gracias section. It is similar in appearance to the native rubber tree, and the milk (or gum) is the same color and consistency as crude rubber, but is altogether lacking in resiliency.

Numerous analyses have been made for the purpose of ascertaining whether there was any field of usefulness for tuna gum, and considerable money has been spent in experimenting with the product by parties in this section, but there appeared to be no practical demand for the article. Periodical shipments of small quantities, presumably for experimental purposes, have been made from this consular district as far back as 1885, but at no time have exportations exceeded 5,000 pounds in one year, while the prices have fluctuated

between 7 and 25 cents per pound, there having been practically no market value for the product.

The fact that this concession was sought for and has been granted would seem to indicate that some field of usefulness has finally been discovered for the gum of the tuna tree, and should the product prove valuable and the demand extensive, the privileges granted in the recent contract with the Government should be of immense value to the concessionaire.

VALUABLE BARK OF CENTRAL AMERICAN TREE AND ITS USES.

The exclusive concession for gathering, manufacturing, and exporting fiber from the "majagua" trees in the national forests of Nicaragua has also been conceded by the Government to a former official.

The hibiscus tiliaceus, or the "majagua," as it is generally known by the natives, is very common on this coast, and is said to be equally numerous in other portions of the Republic. It attains a considerable size and produces a fiber of more than ordinary strength.

The fiber has been used by the native storekeepers, in the interior especially, instead of twine, and where a stronger cord or rope is required several strands are plaited together. It has been utilized by Indians and native ranchmen for years, in making lassos, halters, and ropes; in fact, wherever durability and strength have been the requisite features, a rope made from this product (even in its natural state) has invariably proved equal to almost any reasonable emergency.

Native boatmen on this coast recognize the tree as the "mahoe," and depend upon the fiber for making their tie-lines and anchor cables, with which necessities they are usually well provided, as the only expense incurred is the time consumed in making the rope, while imported manila cables are so expensive that the average boatman could not afford the luxury.

The wood of the tree is considered excellent for ship knees, being extremely tough and comparatively light in weight, and little difficulty is experienced in procuring the desired shape. The fiber lies just beneath the outer bark (which is quite thin, considering the size of the tree) and consists of several layers, which are easily separated by pounding and soaking the bark in water for a few hours. There is apparently an unlimited quantity in the Republic. Samples of the fiber have been forwarded [and may be seen at the Bureau of Manufactures, from whom the name of the concessionaire may also be secured].

KOREA.

NEW NATIONAL LAWS RESTRICTING THE CUTTING OF TIMBER.

Consul-General Thomas Sammons, of Seoul, advises that the new Korean forest laws are similar to those of Japan. He outlines their main points as follows:

The forests will be classified in four kinds, according to the status of their owners. These four classes are imperial, state, public, and private forests. The minister of agriculture, commerce, and industry may work out and order the preservation of such forests as may be necessary for the prevention of landslides, floods, and droughts. The

minister can also prohibit the cutting of forests the destruction of which would impair the scenic features of places of public resort or localities noted for scenic attractiveness.

With the exception of such limitations as the foregoing, the authorities are empowered to dispose of the state forests either by sale, transfer, or mortgage. When any private forests are brought under the "reserved forest act," the owner of them may demand recompense from the Government. The laws require that parties owning forests shall apply to the minister of agriculture, commerce, and industry for official recognition within one year under penalty of forfeiture to the state. Those having rights of afforestation, the felling of trees, or leases of forest lands which will continue valid after the enforcement of the new law, will also be required to secure recognition by the same minister within six months.

It is claimed that the denuding of watersheds in Korea, as well as in China, has resulted in serious injury to the country. In both these countries disastrous floods occur, and in the construction of railways it has been found from experience that exceptionally large bridge openings must be provided in order to prevent washouts. Following heavy rains agricultural areas are frequently covered with water.

The denuding of watersheds in Korea and elsewhere in the Orient results largely from the demand for fuel. As coal mines are opened, however, the demand for forest products will, it is believed, be materially diminished. Forest preservation and regulation will, it is hoped, increase the fuel supply and provide a perpetual supply of suitable material for timbering mines. At present extensive mining operations now being carried on in Korea by Americans depend on the available timber for successful exploitation. The mining interests, as represented by various nationalities are, therefore, concerned in the forestry regulations, in so far as they may affect this industry.

AUSTRALIA.

IMPORTANT DISCOVERY OF CAJUPUT OIL IN NEW SOUTH WALES.

Consul Orlando H. Baker reports from Sydney that it has recently been demonstrated that cajuput oil, supposed heretofore to be exclusively a product of Java, exists in one of the trees of New South Wales, Australia, known commonly as "ti-tree" (*Melaleuca uncinata*). The consul adds:

The oil exists in globules in the leaves and is easily extracted. Speaking of his discovery, a member of the Technological Museum of New South Wales says:

Regarded as an oil, the ti-tree cajuput resembles the Java product, but its stearoptene or solid alcohol is a new substance not hitherto described or investigated. Nor does it agree with any known substance previously obtained from plants. It may be that this discovery will have profound importance. Eucalyptus oil has attained world-wide repute, and it is likely that the Australian cajuput will soon be recognized as a useful agent by medical men and chemists. Its effect upon humanity is expected to be beneficial in certain cases. Ti-trees of the variety *Melaleuca uncinata* are plentiful near Sydney. The leaves are tiny spikes, and there is a berrylike fruit.

CEMENT.

MANUFACTURE AND USE.

MEXICO.

GROWING DEMAND FOR USE IN CONSTRUCTION WORK IN THE REPUBLIC.

A few months ago, upon request from the Department of Commerce and Labor, the Department of State instructed the various consular officers to report on the cement industry and the machinery employed in its manufacture. Among the reports received the following from Consul-General A. L. M. Gottschalk, of Mexico City, covering the cement industry in the Republic, will be interesting to American manufacturers:

There is practically an unlimited future for the use of concrete as a building material in this city as well as in the other large cities of the Mexican Republic, especially for the hollow concrete block. There are, I am told, in the capital city, only some 300 houses built of concrete, but this comparatively small number is due to the fact that the material only began to find general acceptance with architects and builders a very short time ago, much prejudice having been felt against it owing to the fact that some years ago certain speculators undertook to launch upon the market concrete blocks of so poor a quality that they were universally condemned. This prejudice has, however, entirely disappeared. A very telling ocular demonstration of the strength and solidity of cement-block construction was afforded in this city in April, 1907, when an earthquake lasting two and one-half minutes, and causing a recorded sway of 60 centimeters in certain buildings in town, left utterly unscathed a residence building of concrete block, while countless numbers of neighboring houses were more or less damaged.

CRUDE METHODS OF LOCAL MAKERS—MOLDS FROM UNITED STATES.

There are more than twenty manufacturers of concrete blocks or ornamental work in this city alone. The methods in use among them are usually of the crudest, with the exception of two concerns which import American molds. The system generally in vogue is to have molds made of plaster of paris into which the cement is run, after which the mold is pried or chipped off. Many manufacturers make their molds of a sort of elastic glue, commonly called "cola," whose composition I could not ascertain, which permit them to turn out numbers of very artistic undercut or scrolled pieces.

The importation of fancy molds, which covers only a few years' time, and which, I am informed, has been almost exclusively from the United States, has not amounted to more than 1,500 Mexican pesos (\$747 United States currency). A much greater number would of course be imported if our factories could turn out molds of the standard sizes in use in this country. As an example, the standard balustrade of balconies and cornices in the United States is between

15 and 18 inches high, with a diameter of 5 inches; in Mexico these balustrades are invariably 60 centimeters in height (approximately 24 inches). It may, however, be said that ornamental cement work is gradually supplanting the old-fashioned carved stone work which characterized all Mexican buildings of any pretensions until comparatively recently.

Imported molds for cement blocks are practically all of American make, though there is an occasional French or German one to be seen. The chief difficulty which works against the American manufacturer of cement block molds who desires to export these to Mexico, is the fact that American molds are never made to conform in size to the standard (metric) measurements in use by Mexican architects and builders. Moreover the Mexican architect, still bound by the traditions of old Spanish engineering, is much inclined to believe that a wall less than 16 inches thick can hardly be of sufficient strength to stand. Up to September, 1907, about \$50,000 United States currency worth of these molds had been imported, chiefly for use in this city and vicinity. One concern here has a complete set of American equipment in this line, said to be worth over \$24,000 United States currency. Most of the importations are manufactured at South Bend, Ind., by the Ideal Concrete Machinery Company.

VALUE OF AN OBJECT LESSON.

Mexican builders are beginning to open their eyes to the fact that much of the former tradition may as well be done away with. An American firm in this city has been building a number of "demonstrative walls" of the usual Mexican thicknesses, by using blocks of standard American sizes and smaller "veneer blocks" to fill out to the thickness required by local custom. Some Mexican engineers have been persuaded; others have objected to weakness in the joints between the solid wall and the veneer blocks.

The fact remains that much of the old prejudice is gradually dying. Recently there was held here a meeting of prominent engineers, to which an invitation was issued embracing all builders and architects, for the purpose of studying building material suitable to the City of Mexico, which is built upon what was once the bottom of the old lake of Tezcoco, and where the "settling" of numerous heavy public buildings is beginning to give some concern. I am given the figures five tons to the square surface meter as being the maximum weight that the soil of the city, generally speaking, will stand.

One of the strongest arguments used by the advocates of cement blocks to supplant the building materials formerly in general use here (heavy lava rock; "tezontle," a sort of pumice; or the native burnt bricks called locally "tabiques," in connection with ordinary bricks brought from the United States) is that the native mason will not usually lay more than 400 of the native brick in one day, whereas in the same time he can lay 100 concrete blocks of standard size, which means about two and a half times as much in actual cubic measurement. These points, together with the fireproof qualities and lesser weight of the cement (hollow) block walls, are daily being brought more and more to the attention of builders and architects.

SEWER PIPES, SIDEWALKS, AND ROOFING—REINFORCED CONCRETE.

An important item in recent importations of concrete machinery from the United States has been sewer-pipe molds, made by a firm

of Minneapolis, Minn. I am told that importations of this article to the value of \$9,960 United States currency have entered the country within the year.

Concrete sidewalks are in use in practically every large city in the Republic, and the older-fashioned stone-flag sidewalks are gradually being relegated to such towns as are still unfortunate enough not to possess railroad transportation for the carrying of cement.

Concrete roofing, made in slabs $1\frac{1}{2}$ feet by 3, 4 inches thick and ribbed, and joined together by asphalt joints, are made here by the firm of J. G. Zwicker & Co., under a United States and Mexico patent. These have been used very satisfactorily on roofing one or two public buildings and several private residences of the wealthy.

It is only quite recently that the system of reinforced or "armored" concrete for buildings has been taken up by Mexican architects. Up to the present time there are but few examples of such buildings in this city, one or two of them large dry-goods stores. The systems best known are the Kahn (of the United States) and the Hennebique. Four such new buildings are about being completed.

Steel bars for reinforcing have been imported, but only in small quantities thus far, from the United States. Some expanded metal of English manufacture and some American rib metal have also been imported. Quite recently a fairly heavy tonnage of corrugated bars and similar material has been ordered by the Mexican Government from two American concerns.

MANUFACTURING PLANTS—DOMESTIC SUPPLY AND IMPORTS.

There are at present three cement manufacturing plants in the Mexican Republic. One is that owned and controlled by the *Compañía Bancaria de Obras y Bienes Raíces*, situated at Dublin, State of Hidalgo, and only a short distance from this city. A much smaller plant is that of Arenzana & Co., on the outskirts of the capital city. The third is the Monterey Steel and Iron Company, of Monterey, State of Nuevo Leon, which sells some of its product in this city. The Dublin plant turns out an excellent cement of the Portland type, which is said by persons competent to judge to be quite the equal of the imported article. It has a capacity of some 1,000 barrels per month, but expensive and radical enlargements are under way there which will bring the factory's output, or at least its working capacity, up to 1,000 barrels per day. The so-called "Forsythe" process, which is in general use in the United States for softening limestone where limestone is used in cement manufacture, will be in operation there.

There are fairly extensive cement beds in the neighboring State of Morelos, but just how extensive or how productive it is difficult to determine. The domestic cement supply seems to be somewhat jealously guarded by the persons interested. I was assured, during a tour of the State of Oaxaca, that extensive and valuable, although unexploited, cement beds were to be found there.

The exact figures of Mexican importations of cement from abroad are somewhat difficult to determine, the article, "cement," being usually included in the Government statistics with others, such as lime, carbonate of lime, etc. Germany appears to have been the chief source of importations, probably owing to her cheap ocean freights. One American concern sends large consignments to Mexico regularly; but the German market seems on the whole to be considered cheaper

and better. I have also heard of large consignments coming occasionally from Belgium and England.

I am told that approximately 600,000 barrels was the total importation of the year ended June 30, 1905; that the next year's figures showed 750,000, and that in 1906-7 the importations rose to above 1,000,000 barrels. The Mexican Government, during the last-mentioned period, I am told, contracted with German firms for over 100,000 barrels; with an English syndicate for some 40,000, and with an American firm for 20,000.

FUTURE OF CONCRETE IN MEXICO.

The following paragraph is from one of the leading houses in the concrete manufacturing business regarding the future of concrete in Mexico:

With reference to the future of concrete construction, whether it be either in the form of concrete block or reinforced concrete construction, it is very well seen that this new class of building material and construction is in its infancy, but it is very evident that it is going to take both time and patience in order to gain the confidence of both engineers and architects and builders with reference to the strength and stability of both concrete blocks and reinforced construction. As the fact must not be overlooked of existing conditions, such as earthquakes, which are very common in this country; but as a whole it is the writer's belief that one year from to-day there will be 50 per cent more concrete used than there is at the present time.

GERMANY.

CONDITION OF THE LOCAL MARKET—ACTIVITY IN RURAL BUILDING.

Consul Carl Bailey Hurst, of Plauen, states that in close relation to the importation and sale in Germany of concrete machinery is the condition of the local cement market. He reviews the cement trade in the Empire for the past year:

Statistics recently published here afford a fair indication of the use of cement in this country. The year 1906 was characterized in the German cement market as one of strong development. The output of cement in 1907 did not fall behind, although some anticipated a repetition of the same progress that was manifested the year before. The complaint from some works that business did not attain the high mark expected is not altogether justified. In fact, most localities making cement were busily engaged, with the exception of some in eastern Germany.

The profits of the important cement companies in 1907 were on a par with those of the previous year. For the 28 largest concerns, representing a capital of \$2,380,000, the dividends will probably be nearly 12 per cent, a fraction higher than in 1906. The reason that the manufacture of cement did not show greater activity during the past year was a duller and more irregular season in building enterprises. Particularly in the large cities fewer buildings were erected, but, on the other hand, there were more houses put up in the outlying parts of the country, with the result that the major share of the business, which had hitherto flowed to the great towns, was deflected to the rural districts and there scattered.

It is worth calling attention again to the fact that concrete is coming more into favor in Germany as a building material and

that American machines for making concrete blocks and cement brick should have a wider chance of introduction.

HEAVY IMPORTATIONS—REDUCED EXPORTATIONS.

The whole German industry was affected by the heavier import of foreign cement, three times more being imported in 1907 than in 1901. Belgian competition had already been keenly felt in 1906 and, although there was a slackening from this source, still the 232,981 long tons of cement placed on the German market by Belgium, Austria, and France, together with other countries, were sufficient to lessen the home trade. The exact amounts imported into Germany during the first eleven months of 1907 were as follows: From Belgium, 122,680 long tons, in comparison with 128,400 tons during the corresponding period of 1906; from Austria, 33,265 long tons, in comparison to 35,622 in 1906; from France, 25,393 long tons, in contrast to 20,487 tons for the same period in the preceding year.

During the time that the import increased, the export of German cement fell somewhat behind, 646,298 long tons being exported during the first eleven months of 1907, against 672,248 tons exported in 1906. The best customer for German cement during 1906 was the United States, followed by the Netherlands. The export figures for 1907 show a remarkable change. During the first eleven months of 1907 the United States bought 78,726 long tons of cement made in Germany, in contrast to 137,425 tons during the corresponding period of the preceding year. The Netherlands took 94,851 long tons during January–November, 1907, and 105,798 in 1906. The decrease in the export to the United States is thus markedly noticeable. Central and South America are increasing buyers of German cement, Brazil alone having imported, during the first eleven months of 1907, 64,647 long tons.

UNITED STATES.

SLIGHT GAIN IN PORTLAND CEMENT PRODUCTION LAST YEAR.

Returns to the United States Geological Survey representing 95 per cent of the Portland-cement production of the United States for the year 1907 indicate that the total output of Portland cement in the last calendar year was approximately 48,000,000 barrels, as compared with 46,463,424 barrels in 1906 and 35,258,812 barrels in 1905. The increase in production in 1907 over 1906 was below the average of previous annual gains, which is said to have been the result of general business depression in the latter part of the year.

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

NORWAY.

THE SCANDINAVIAN FISHERIES EXHIBITION AT TRONDHJEM.

Minister H. H. D. Peirce reports from Christiania that he has received from the chief of the Bureau of Information on Trade and Industry in Norway the following account of the Scandinavian Fisheries Exposition to be held in Trondhjem in July and August of the current year, concerning which reference has already been made in Consular and Trade Reports:

In July and August, 1908, the city of Trondhjem will be a rendezvous of more than ordinary interest. On July 1 an exhibition will be opened there which will show the position held by the fishing trade at the present time, both in the Scandinavian countries and in Iceland and the Färoe Islands.

There is a considerable difference between Danish, Swedish, and Norwegian fishing, this being determined, in a great measure, by the peculiar natural conditions under which the trade is carried on. The sea round the Danish coasts is more or less shallow, and thus furnishes the conditions necessary for the existence of a number of fish belonging to the flounder species, of which the plaice (*Pleuronectes platessa*) in particular is caught in such quantities as to be of great national economic importance. Sweden, as regards her fisheries, occupies an intermediate position, so to speak, as compared with Denmark and Norway. On the Swedish coast, too, various kinds of flat fish are caught in considerable quantities, but their yield can not be compared with that of the herring fisheries on the west coast of Sweden.

Round the coast of Norway and in the Norwegian fjords there is little shallow water to be found, and therefore cod and herring are the principal objects of the fisheries. In 1906 the yield of the Norwegian cod fisheries was 47,000,000 fish, representing in value about 16,400,000 kroner (krone=26.8 cents). Only the large coast fisheries are included in this computation and not the fjord fishing for the supply of daily needs. The yield of the Norwegian herring fisheries in 1906 was 1,076,000 hectoliters (hectoliter=26.4 gallons), amounting in value to about 7,500,000 kroner. According to the official statistics the total exportation of products of the Norwegian fisheries and whaling in 1906 amounted in value to about 66,700,000 kroner, or about \$17,875,600.

WHAT CAN BE SEEN AT TRONDHJEM.

The visitor to the exhibition at Trondhjem will be able to make himself acquainted with the characteristic features of the fisheries in the Scandinavian countries, and those who take a special interest in the matter will find there numerous instructive details with regard to vessels, engines, and motors for fishing purposes, fishermen's implements and equipment, the preparation of the products, their conveyance and sale, all kinds of sport fishing, etc.

The historically famous town of Trondhjem, which in 1897 celebrated its 900th anniversary, forms the setting to the exhibition. For many years Trondhjem was the residence of the Norwegian kings, and the political center of the country. It contains the most beautiful of Norwegian monuments, the cathedral—a work of which Norwegians may be proud. As the arch-episcopal see and chapter, the town was for centuries the intellectual focus of the country. The archbishop's spiritual duties did not prevent him, however, from occupying himself with economic matters, and he employed fishermen at most of the large fishing stations, some of which he owned himself. A considerable portion

of his income consisted of fish products; and there were times during which the archbishop, in addition to being the primate of the Norweigan church, was also the largest fish merchant in the Kingdom.

Trondhjem is now, as in olden times, a natural center for fishing and the sale of the products. Its trade in fresh fish in particular has of late years increased greatly. Owing to its position in the midst of the fishing districts it is peculiarly well adapted for the coming exhibition, at which there will be a large number of exhibitors. The beautiful surrounding scenery and the pleasant climate will also contribute toward the bringing of travelers from all countries to the town.

BELGIUM.

IMPORTANCE OF THE WORLD'S FAIR AT BRUSSELS.

Consul-General Henry W. Diederich, writing from Antwerp, calls attention to the importance of thorough American representation at the official Belgian International Exposition to be held in Brussels in 1910, concerning which he says:

The history of the exhibitions held at Antwerp in 1885 and 1894, Brussels in 1897, and Liege in 1905, shows that they have been eminently successful. The manufacturers and merchants of the United States should make displays at the 1910 exposition in a manner worthy the progress and industrial development of the Republic. Americans and others who took an active part in the previous exhibitions say that the meager show made by our people did far more harm than good to American industries. When such a national affair has been officially recognized the general public feel justified in expecting something great from an extensive manufacturing country like the United States, and when they see instead a display scarcely suitable for a country fair the effect is both disappointing and prejudicial. American sections at previous expositions were insignificant compared to those of France, Germany, Holland, Austria, Italy, Japan, and Canada.

A fair array of the natural resources and industries of the United States indicating the progress of its people in the various arts of civilized life might bring an ample reward for all the sacrifice of time and money. A few hours' careful study of American products and a close survey of them by actual sight would do more for the extension of the American trade abroad than a ton of illustrated journals and pamphlets. As with all expositions, the effect of this one at Brussels will be a wider diffusion of knowledge and a spirit of deeper rivalry between individuals and nations. A higher standard of excellence will be set up in every human activity, from the simplest to the grandest, and improvements will be shown of many processes, from the plainest manipulations of raw material up to the application of chemistry and other sciences in mining and manufacture. Beyond all doubt a properly organized and financially well-supported participation in this exposition would be attended with great advantage.

RESULTS FROM THE LIEGE EXPOSITION.

A letter from an American mechanical engineer located in Antwerp to the Bureau of Manufactures states that there were 85 American exhibitors of machine tools at the Liege exposition in 1905, 65 of whom obtained awards. He points out the urgency of excellent American representation at the Brussels exposition in 1910. The letter adds that the large display made by Canada at Liege caused

an increase of its foreign business by several millions of dollars. He is informed that Canada is to make a still larger display at Brussels. Great Britain, Germany, France, Italy, Austria-Hungary, and oriental countries have applied for large spaces.

JAPAN.

EXEMPTION OF DUTY ON ARTICLES IMPORTED FOR EXHIBITION.

Consul-General Henry B. Miller, of Yokohama, reports that the law relating to the exemption from duty of foreign goods to be exhibited in the Grand Exposition of Japan, to be held at Tokyo in 1912, was gazetted on February 28, a summary of which is as follows:

It stipulates that foreign goods to be exhibited in the exposition are exempt from import and consumption duties, and that those to be for the purpose of "show" or theatrical performance in the exposition ground are also entitled to the same privilege, provided that both duties are imposed on them in any of the following cases:

(1) When goods are removed outside the exposition compound without being returned abroad; (2) when they are not returned abroad within four months from the date of the closing of the exposition; (3) when they are sold on the spot in the exposition or consumed for business purposes.

When proper security in cash or public bonds is deposited for import and consumption duties the actions mentioned in (1) and (2) may be carried on within the limit of the amount of deposit before the payment of duties. When the payment of duties is not made within four months from the date of the closing of the exposition this deposit is to be utilized by the customs authorities as duties. The following foreign goods are also exempt from both duties: (1) Articles and materials to be used for foreign government buildings in the exposition compound and exhibits of foreign governments; (2) private effects of foreign officials dispatched to Japan in connection with the exhibition; (3) articles and materials to be used for arranging or decorating exhibits; (4) articles to be distributed gratis in the exposition compound as advertisements or samples. The date of the enforcement of the law is to be fixed by a later Imperial ordinance.

CHINA.

MANUFACTURES AND MACHINERY FAIR FOR SHANGHAI.

Deputy Consul-General W. Roderick Dorsey reports that it is proposed to hold an exhibition in Shanghai during 1909, under the auspices of the China Association, provided sufficient support can be obtained, details of which follow:

The fair will be called the Shanghai International Exhibition and will be confined to staple manufactures and machinery. It is proposed to raise the necessary funds by subscriptions to a guaranty fund. Subscriptions will be solicited from Shanghai merchants and it is hoped that manufacturers in foreign countries, realizing the advantages that may accrue to their products through this medium, will be prepared to subscribe to such a fund.

The whole project is in an embryonic state and it is impossible at the present time to secure particulars of space available for each exhibit or the terms on which space can be rented. Seventy acres of land have been secured in a suitable situation and as soon as practicable plans for the buildings will be made.

There is no prospectus or other advertising matter in circulation at present, but American manufacturers and exporters interested in the project can have this sent to them as soon as it is issued by addressing Mr. L. E. Canning, secretary China Association, No. 6 Peking road, Shanghai, China.

RUSSIA.

MOTOR TRADE EXHIBITION AT MOSCOW.

Consul Samuel Smith sends the information, that an international exhibition of automobiles, motor boats, bicycles, and sporting goods is to be held at Moscow from May 16 to June 2, 1908, under the auspices of the local Russian Automobile Club. All inquiries pertaining to this exhibition are to be addressed to the Russian Automobile Club, Moscow branch, Tverskaya street, house Hirschmann, Moscow, Russia.

THE ST. PETERSBURG BUILDING EXPOSITION.

Additional information concerning the International Arts and Building Exposition to be held in St. Petersburg this year is furnished by Ambassador Baron Rosen, who states that American engineers, architects, and manufacturers are invited to take part, as it is very much desired to have a special section of American products. The exposition will include the following sections: (1) Building material; (2) locks, cabinetwork, wainscoting, etc.; (3) sanitation and heating equipment; (4) fire prevention; (5) mechanical devices, such as electric motors and elevators; (6) exterior and interior decoration of houses; (7) literature and instruction, including instruments, etc.

AUSTRIA-HUNGARY.

FIRST INTERNATIONAL EXPOSITION OF THE CHASE.

The Department of State is in receipt of a note from the Austro-Hungarian ambassador at Washington inclosing programme of the First International Exposition of the Chase, to be held at Vienna from May 15 to October 15, 1910. This exposition will include every product of agriculture, trade, and industry in any way connected with the sport. Ambassador Hengelmüller requests that private and public institutions interested be informed of the exposition and invited to take part therein.

MISCELLANEOUS.

TARIFF CHANGES.

JAPAN.

FORTHCOMING INCREASE OF CERTAIN DUTIES.

According to information received by the British Foreign Office the Japanese import duties on a number of articles are to be increased from September 1 next, as shown in the subjoined statement (equivalents being yen=\$0.498; kin=1.32277 pounds; liter=1.05668 quarts):

Tariff No.	Article.	Present rate.	Rate from Sept. 1, 1908.
50	Fruit juice (sugared) and sirup.....	45% ad. val.	60% ad. val.
51	Grape sugar, malt sugar, and the like.....100 kins..	7.25 yen.	9.25 yen.
53	Honey.....	50% ad. val.	60% ad. val.
55	Confectionery, fancy biscuits, and other cakes.....100 kins..	20.00 yen.	26.00 yen.
56	Jam, fruit jelly, and the like.....100 kins..	13.00 yen.	17.00 yen.
57	Vegetables and fruits preserved with sugar, molasses, sirup, or honey,.....100 kins..	8.00 yen.	10.60 yen.
58	Saké.....liter..	.15 yen.	.17 yen.
59	Chinese liquors, fermented.....liter..	.15 yen.	.17 yen.
60	Beer, ale, porter, and stout.....liter..	.10 yen.	.12 yen.
63	All other alcoholic liquors (except wines): ^b		
	In bottles.....liter..	.90 yen.	1.10 yen.
	In other receptacles.....liter..	.50 yen.	.60 yen.
64	Alcohol.....liter..	.65 yen.	.73 yen.
137	Alcohol, denatured.....liter..	.65 yen.	.73 yen.
153	Alcoholic medicinal preparations (excluding tincture of opium) liter..	.65 yen.	.73 yen.

* Including the weight of the receptacles.

^b Alcoholic liquors, containing more than 50 per cent by volume of pure alcohol, specific gravity 0.7947 at 15° C., are subject to an additional duty at the rate of 1 sen per liter for every additional 1 per cent of pure alcohol.

INCREASE OF CONSUMPTION TAX ON SUGAR.

The consumption tax on sugar (which is levied on both home-produced and imported sugar) has been increased with effect from February 22 last, and the former and new rates of this consumption tax are shown in the following statement:

Kinds of sugar.	Former.	Present.
	Yen.	Yen.
Sugar, Class I (below No. 8, Dutch standard), and molasses.....100 kins..	2.00	3.00
Sugar, Class II (from No. 8 to No. 15, exclusive, Dutch standard).....100 kins..	4.40	5.50
Sugar, Class III (from No. 15 to No. 20, inclusive, Dutch standard).....100 kins..	6.50	8.50
Sugar, Class IV (above No. 20, Dutch standard), and candy.....100 kins..	7.50	10.00

SPAIN.

CERTIFICATES OF ORIGIN NO LONGER REQUIRED ON CERTAIN ARTICLES.

Minister William Miller Collier reports from Madrid, under date of March 4, that according to the royal order of February 18, cer-

tificates of origin will no longer be required upon the importation of articles mentioned in Nos. 28, 29, 43, 44, 193, 194, 410, 412, and 681 of the Spanish tariff.

The articles affected are crystal and half-crystal glass, whether or not colored, engraved, cut, or ornamented; tableware and toilet articles of porcelain and earthenware, whether or not painted, stamped or otherwise ornamented, in one or more colors; varnishes; blank books, copying books, envelopes, writing paper, and other kinds of prepared paper, not specially mentioned in the tariff; and water-proofed articles of apparel.

TURKEY.

RESTORATION OF THE FULL RATE ON WHEAT AND FLOUR.

Consul-General Edward H. Ozmun, of Constantinople, reports, under date of February 26, that the temporary regulations of the Turkish Government, which prohibited the export of wheat and suspended the entire duty of 11 per cent on grain imported into Constantinople and reduced the duty of 6 per cent on imported flour, have been rescinded. From February 14, in the provinces, and from March 14, in Constantinople, the usual duty of 11 per cent ad valorem on grain and flour will be collected and the export of grain will be permitted.

NETHERLANDS.

TARIFF CLASSIFICATION OF MAIZE FLAKES.

The British Board of Trade Journal publishes a resolution of the Dutch Minister of Finance, dated February 27, providing that maize (corn) flakes or cerealin (maize, malted, steamed and crushed or paped) shall on importation into the Netherlands be classified for duty under the head of potato-meal products at the rate of 2 florins per 100 kilos (\$0.804 per 220 pounds).

PERU.

ADDITIONAL DUTY ON IMPORTS AT CALLAO.

According to information received by the British Foreign Office, the Peruvian Government has imposed an additional duty of 2 per cent on imports through the Callao customs house. The collection of the additional taxes on imports, which, until January 10 last, was in the hands of the National Company of Taxation, has since that date been taken over by the Callao customs service.

MOROCCO.

A GENERAL INCREASE OF DUTIES.

Minister S. R. Gummere informed the Department of State under date of February 6, 1908, that the additional duty of 2½ per cent ad valorem on imports into Morocco, authorized by article 66 of the general act of Algeciras, was to go into effect February 19, 1908. The former duty on most imports into Morocco was 10 per cent ad valorem.

BOOKS AND MAGAZINES.**GERMANY.****EXTENSIVE EXPORTATION OF PUBLICATIONS TO MANY LANDS LAST YEAR.**

Consul Robert J. Thompson, writing from Hanover, says that one of the highest evidences of a nation's ethical standing among the people of the world is the foreign demand for its literature, its technical studies, and its scientific investigations. In connection with this fact he adduces the following figures on the foreign book trade of Germany:

While the German trade statistics in this particular respect are incomplete, nevertheless the estimate of 42,012,520 books sent by German publishers to foreign countries in 1907 is fairly figured out.

The statistics show that 12,731,100 kilos (kilo=2.2 pounds) were exported from the German market, 5,946,300 of which went to Austria-Hungary, 1,755,200 to Switzerland, 1,055,700 to European Russia, 1,007,900 to the United States, 639,600 to France, 527,500 to the Netherlands, 384,100 to England, 206,200 to Belgium, 204,400 to Sweden, 171,400 to Denmark, and 1,713 to Italy. To these figures 50 per cent more is added as having gone through the mails and included in the trade statistics mentioned. There was thus in all 19,096,650 kilos, or 42,100,475 pounds, of books sent abroad. The valuation of this branch of German export is placed at 75,000,000 marks (\$17,850,000), and the number of separate volumes figured at an average of 1 pound each at 42,100,475.

SPAIN.**AMERICAN DIME NOVELS HAVE A PERIOD OF POPULARITY.**

Consul-General Benjamin H. Ridgely reports substantially as follows, from Barcelona, concerning the temporary popularity in Spain of a certain class of American publications:

Another strictly American industry has been successfully introduced into Spain, namely, the old-fashioned dime-novel industry. At all the newspaper kiosks French translations of the most popular of these novels have been selling rapidly for a year or more. The books retail at from 4.1 cents to about 6 American cents a copy. American publishers have recently asked this consulate to report as to whether or not this unexpected demand for dime-novel literature is sufficiently stable to warrant the invasion of the field on a big scale with Spanish editions of everything in the dime-novel series. The consul-general says that after carefully investigating the matter he is compelled to report that there is not much outlook for this literature in Spain. As a matter of fact, it has already begun to pall upon the juvenile Spanish appreciation and during the past three months sales have steadily diminished. Moreover, with the exception of Barcelona and Madrid, the reading public is not large. In connection with this matter it may be said that the best profits of Spanish publishers of cheap literature are earned in South and Central America, and it is likely that they have already supplied those markets with the class of literature above named.

MEXICO.**GROWING TRADE POSSIBILITIES IN STATE OF COAHUILA.**

Consul Thomas W. Voetter, writing from Saltillo, points out the following opening for the sale in Mexico of American publications:

The authorities of the State of Coahuila are devoting much attention at present to education, and later in this year the normal school will be transferred to a large and well-equipped modern building now under construction. With the increase in general education it is certain that there will be a greater demand for books and magazines, and the attention being given to teaching English can not help but create a market for books in that language.

It can be said that if American publications translated into Spanish (fiction especially) were brought on the market here, there would be some business done, and the same may be said of books printed in English, but the demand would be small, and it would not pay for dealers here to carry any large stock. In view of the future increase in the number of educated persons it would be wise not to neglect any opening, however small it might seem now. [Names of dealers in such goods at Saltillo may be secured from the Bureau of Manufactures.]

PARAGUAY.**SALES OPPORTUNITIES IN THE CAPITAL CITY.**

Consul Edward J. Norton, of Asuncion, reports as follows on the field for American publications in Paraguay:

American school books, especially those designed for kindergarten and primary classes, are highly esteemed in Paraguay. This is an opening which publishers of school books would do well to follow up, as it might result in developing the sale of this class of books in this country, as English is taught in many schools; or these works might be translated and adapted for elementary instruction in the Paraguayan primary schools. However, there is no reason why efforts should be confined to the introduction of books of primary instruction only.

There is a decided lack of American publications in English in Asuncion. When English books or periodicals are wanted they are usually ordered from Buenos Aires, where fairly large assortments are kept. American periodicals and a limited selection of fiction in English would find ready sale here. [Names of persons at Asuncion interested in school books, as well as the principal booksellers, may be obtained from the Bureau of Manufactures.]

PERU.**LITERATURE GROWING IN DEMAND IN THE RUBBER REGION.**

Consul Charles C. Eberhardt, writing from Iquitos, states that rubber gathering, the chief industry of Amazonian Peru, is coming more and more into the hands of men of some education, who, shut away for months at a time in the deep forests, eagerly read anything that can be obtained, and there would therefore seem to be a fair field there for American publications. [Iquitos booksellers and general importers are listed at the Bureau of Manufactures.]

CREMATION IN SWITZERLAND.

PUBLIC SENTIMENT IN ITS FAVOR GROWING RAPIDLY.

In transmitting the following information, Consul R. E. Mansfield, of Lucerne, reports that the sentiment in favor of cremation is extending, as evidenced by the number of new societies being organized in its favor and the increase in the number of bodies cremated each year:

Cremation is sanctioned by law in Switzerland, and there are four crematories in the Confederation, all of which are provided with modern facilities for this method of disposing of the bodies of the dead. They are located at Basle, Geneva, St. Gall, and Zurich, and the service of each of the institutions is available to anyone upon formal application. In addition to these, new ones are to be built at Berne, Neuchatel, Chaux de Fonds, Aarau, and Lucerne. The one at Berne will be completed in 1909. Of the four crematories already in existence those at Basle, Geneva, and Zurich, are owned by the municipalities where located; that at St. Gall is a private institution, but under police regulation.

The cost of cremation is small at all of the Swiss institutions, and in all of them the schedule shows a lower price for a citizen of Switzerland than for foreigners. The following statement shows the cost of cremation at the four crematories:

Bodies of—	Basle.	Zurich.	St. Gall.	Geneva.
Citizens of municipality.....	No charge.	No charge.	\$5	* \$10
Citizens of Canton outside the municipality.....	do	\$17	6	16
Citizens of other Cantons.....	\$20	20	12	20
Foreigners.....	28	24	20	30

* Bodies of members of the Geneva Society for Cremation.

At Basle there is an additional charge for hearse from the stations to the crematory, for the urn, etc. This institution also requires that a post-mortem be held on all bodies presented for cremation, and a doctor's certificate stating the character of the disease from which the patient died.

Each of the Swiss crematories has a place for storing urns containing the ashes of incinerated bodies, where for a nominal sum they may be left for an indefinite time.

There are in Switzerland a number of societies which have for their object the propagation of the theory of cremation of the bodies of the dead. The propaganda is based upon various theories, chief among which is that of sanitation, the claim being made that the decomposition of bodies buried in the ground is a danger to public health.

An application to any of the Swiss crematories for the cremation of the body of a foreigner must be accompanied by documentary evidences of nationality, age, place of residence, etc., of the deceased. The ashes of a cremated body may be removed from the country at the will of the family or relations, whereas in the case of burial it is difficult to secure the removal of the body.

ARTIFICIAL PRECIOUS STONES.

GERMAN INVESTIGATORS REPORT BUT LITTLE PRACTICAL SUCCESS.

Consul William Bardel, of Bamberg, advises that about forty artificial precious stones were recently submitted to the Museum of Natural History at Berlin by an association which claimed to have made these stones, based on the process which recently created so much attention.

Several official experts, among whom was the professor having knowledge of gems in the Museum of Natural History, two practical experts, and the chief master of the gold and silver smiths' guild of Germany, were requested to make a careful examination of the merits of the "so-called" new discoveries. The report submitted by this committee of experts reads as follows:

Of the variety of stones we examined we were favorably impressed only by the artificial rubies. Among these were some of great beauty and worthy of consideration. The white sapphires were of no account at all; they appeared dull and washed out. Well imitated were the yellow precious stones; they really resembled the topaz very closely; but this invention carries with it only very little value, since the real topaz is found in such large quantities that they sell at from 2 to 3 marks (47.6 to 71.4 cents) a gramme. Therefore it would seem of little importance to imitate such common stones. Of all the stones we examined, we can only call the artificial rubies a direct success; but the imitation of this latter species of precious stones is no new invention. We therefore declare that there is nothing new or sensational in the claimed invention.

BLACK FOX BREEDING.

THE ANIMALS RAISED FOR THEIR SKINS IN PRINCE EDWARD ISLAND.

Consul John H. Shirley, of Charlottetown, in forwarding the following report, says that as strangers are not allowed on or about the fox farms it is impossible to secure any very definite information concerning the industry.

There are three black fox farms near Atherton where these animals are raised for their skins. These farms contain 20, 25, and 30 foxes, respectively. The skins are sold in London at prices ranging from \$500 to \$1,800 each, according to quality. I am informed that the fur is used for ornamenting the cloaks of royalty, as it is the only fur to which gold will cling.

The farm containing 30 foxes is on Cherry's Island. The farm containing 20 foxes is in a rough, broken woods country, where the animals are confined by heavy woven-wire netting. The wire is set in the ground two and three feet, in order to keep the foxes from burrowing under, and is about eight feet high above ground, with a curve inwardly at the top of each post of another three or four feet of wire, in order to keep them from climbing over the fence. They sleep in the open the year round, in hollow trees and in hollow logs. These animals are not crossbred, but are confined to their own kind, to keep the fur of the best quality possible. They are fed principally on oats and milk and bread and milk, with a small quantity of cooked

meat once a day, at noon, the amount of meat being lessened during the summer, as it has been shown that too much meat creates mange, diseased scalps, etc. These animals are very wild, and no one can get near them except the keeper, and he only when he brings them food.

PARCELS POST IN ARGENTINA.

STEADY GROWTH OF THE FOREIGN SERVICE SHOWN AT BUENOS AIRES.

The Statistical Annuary of the city of Buenos Aires furnishes the following facts in regard to the growth of the foreign parcels-post service in the Argentine capital:

Packages received via foreign parcels post in 1906 amounted to 138,818, against 113,849 in 1905, 87,878 in 1904, 55,200 in 1903, and 42,892 in 1902. In 1906 France sent 48,063 packages, Germany 30,734, Italy 25,524, Switzerland 13,927, and Great Britain 11,858, while none were received from the United States. The outgoing parcels-post trade has also grown, the number of packages increasing from 8,688 in 1902 to 21,714 in 1906. The United States received 217 of these in the year last named.

The Buenos Aires post-office in 1906 handled 114,721,527 letters, 86,042,134 printings, 2,822,997 post cards, 265,290 samples, and 1,145,508 packets.

TOURISTS IN SWITZERLAND.

LARGE DECREASE LAST YEAR IN FOREIGN VISITORS TO GENEVA.

Consul Francis B. Keene transmits the following report on tourists in Geneva during the year 1907:

The statistics of tourists who stopped in the hotels of Geneva during the year 1907 show a decrease of more than 32,000, the number having been 265,500, against 297,786 in 1906. Of American citizens the number was 16,602, against 18,001 in 1906, and all nations show a decrease except Balkan, Scandinavian, African, Asiatic, and Australian States, though visitors from those countries are not numerous.

The decrease has not been general in the whole of Switzerland, Zurich and Lucerne returns, for instance, showing a larger number of visitors in 1907 than in 1906; it is therefore difficult to state the reasons for the decrease in Geneva.

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FOREIGN WEIGHTS AND MEASURES.

The following table embraces such weights and measures used in foreign countries as have been collated from reports of consular officers and other sources:

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS.

Denominations.	Where used.	American equivalent.
Almude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6907 bushels.
Arobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentina.....	25.8175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.3664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.36 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Barril.....	Argentina and Mexico.....	20.0787 gallons.
Berkovetz.....	Russia.....	361.12 pounds.
Bongkal.....	India.....	882 grains.
Bouw.....	Sumatra.....	7.096.5 square meters.
Bu.....	Japan.....	0.119 inch.
Butt.....	Spain (wine).....	140 gallons.
Cafiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	529 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Egypt.....	99.5 pounds.
Do.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7036 pounds.
Cantaro (cantar).....	Malta.....	175 pounds.
Carga.....	Colombia.....	250 pounds.
Do.....	Mexico and Salvador.....	300 pounds.
Catty.....	China.....	1.333½ (1¼) pounds.
Do. ^a	Japan.....	1.32 pounds.
Do.....	Java, Malacca, and Siam.....	1.35 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Centner.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	93.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Chetvert.....	Russia.....	5.7748 bushels.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3.098 pounds.
Do.....	Siam (Koyan).....	2.667 pounds.
Cuadra.....	Argentina.....	4.2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cwt. (hundredweight).....	Great Britain.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	1 gram.
Dun.....	Japan.....	1 inch.
Euthek.....	Asia Minor (wheat).....	10.61 pounds.
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.

^a More frequently called "kin." Among merchants in the treaty ports it equals 1.33½ pounds avoirdupois.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Fanega (dry)	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Spain	1.6 bushels.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail	Spain (raisins)	50 pounds.
Frasco	Argentina	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Go	Japan	0.0000817 acre.
Joeh	Austria-Hungary	1.422 acres.
Ken	Japan	5.965 feet.
Klafter	Russia	216 cubic feet.
Koku (dry)	Japan	5.118 bushels.
Koku (liquid)	do	47.653 gallons.
Korree	Russia	3.5 bushels.
Kota	Japan	5.13 bushels.
Kwan	do	8.27 pounds.
Last	Belgium and Holland	85.184 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,409.2 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11½ bushels.
Do	Spain (salt)	4,760 pounds.
League	Paraguay (land)	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentina	1.0127 pounds.
Do	Castilian	7,100 grains (troy).
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01467 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1½ acres
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82½ pounds.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Honduras and Nicaragua	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.75578 pounds.
Do	Hungary	3.0817 pounds.
Do	Hungary and Wallachia	2.5 pints.
Do	Turkey	2.81857 pounds.
Pic	Egypt	21½ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133½ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentina	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentina	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, and Peru	101.41 pounds.

* Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Quintal	Greece.....	123.2 pounds.
Do	Mexico.....	101.46 pounds.
Do	Newfoundland (fish).....	112 pounds.
Do	Paraguay.....	100 pounds.
Do	Syria.....	125 pounds.
Rottle.....	Palestine.....	6 pounds.
Do	Syria.....	54 pounds.
Sagene.....	Russia.....	7 feet.
Salm.....	Malta.....	490 pounds.
Se	Japan.....	0.02451 acre.
Seer.....	India.....	1 pound 13 ounces.
Shaku.....	Japan.....	11.9303 inches.
Sho	do.....	1.6 dry quarts.
Standard.....	St. Petersburg (lumber measure).....	165 cubic feet.
Stone.....	Great Britain.....	14 pounds.
Suerte.....	Uruguay.....	2,700 cuadras (see cuadra).
Sun	Japan.....	1.193 inches.
Tael.....	Cochin China.....	690.75 grains (troy).
Tan	Japan.....	0.245 acre.
Tierce.....	Newfoundland.....	800 pounds.
To	Japan.....	2 pecks.
Tola	do.....	180 grains.
Tonde.....	Denmark (cereals).....	3.94783 bushels.
Tondeland.....	Denmark.....	1.36 acres.
Tsubo.....	Japan.....	35.581 square feet.
Tsun.....	China.....	1.41 inches.
Tun	Newfoundland (cod oil).....	806 gallons.
Tunna.....	Sweden.....	4.5 bushels.
Tunnland.....	do.....	1.22 acres.
Vara	Argentina.....	34.1208 inches.
Do	Central America.....	32.87 inches.
Do	Chile and Peru.....	33.367 inches.
Do	Cuba.....	33.384 inches.
Do	Curaçao.....	33.375 inches.
Do	Mexico.....	32.992 inches.
Do	Paraguay.....	34 inches.
Do	Spain.....	0.99081 yard.
Do	Venezuela.....	33.384 inches.
Vedro.....	Russia.....	2.707 gallons.
Venetian pound	Greece and Mediterranean countries.....	1.05 pounds.
Vergees.....	Isle of Jersey.....	71.1 square rods.
Verst.....	Russia.....	0.668 mile.
Vlocka.....	Russian Poland.....	41.98 acres.

METRIC WEIGHTS AND MEASURES, WITH EQUIVALENTS.

Units.	Equivalents.	Units.	Equivalents.
WEIGHTS.		LIQUID MEASURE.	
Milligram ($\frac{1}{1000}$ gram).....	0.0154 grain.	Milliliter ($\frac{1}{1000}$ liter).....	0.0338 fluid ounce.
Centigram ($\frac{1}{100}$ gram).....	0.1543 grain.	Centiliter ($\frac{1}{100}$ liter).....	0.338 fluid ounce.
Decigram ($\frac{1}{10}$ gram).....	1.5432 grains.	Deciliter ($\frac{1}{10}$ liter).....	0.845 gill.
Gram.....	15.432 grains.	Liter.....	1.0567 quarts.
Decagram (10 grams).....	0.3527 ounce avoirdupois.	Decaliter (10 liters).....	2.6417 gallons.
Hectogram (100 grams).....	3.5274 ounces avoirdupois.	Hectoliter (100 liters).....	26.418 gallons.
Kilogram (1,000grams).....	2.2046 pounds avoirdupois.	Kiloliter (100 liters).....	264.17 gallons.
Myriagram (10,000 grams).....	22.046 pounds avoirdupois.	MEASURES OF LENGTH.	
Quintal (100,000 grams).....	220.46 pounds avoirdupois.	Millimeter ($\frac{1}{1000}$ meter)...	0.0394 inch.
Millier or tonneau—ton (1,000,000 grams).	2,204.6 pounds avoirdupois.	Centimeter ($\frac{1}{100}$ meter)...	0.3937 inch.
DRY MEASURE.		Decimeter ($\frac{1}{10}$ meter).....	3.937 inches.
Milliliter ($\frac{1}{1000}$ liter).....	0.061 cubic inch.	Meter.....	39.37 inches.
Centiliter ($\frac{1}{100}$ liter).....	0.6102 cubic inch.	Decameter (10 meters)....	393.7 inches.
Deciliter ($\frac{1}{10}$ liter).....	6.1023 cubic inches.	Hectometer (100 meters) .	328 feet 1 inch.
Liter.....	0.908 quart.	Kilometer (1,000 meters) .	0.62137 mile (3,280 feet 10 inches).
Decaliter (10 liters).....	9.08 quarts.	Myriameter (10,000meters)	6.2137 miles.
Hectoliter (100 liters).....	2.838 bushels.	SURFACE MEASURE.	
Kiloliter (1,000 liters).....	1.308 cubic yards.	Centare (1 square meter)...	1.550 square inches.
		Are (100 square meters) ..	119.6 square yards.
		Hectare (10,000 square meters).	2.471 acres.

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BUREAU OF MANUFACTURES

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FOREIGN COMMERCE.

BRAZIL.

EXPANSION IN TRADE INTERCHANGE.

LARGE GAINS IN IMPORTS AND EXPORTS—SHARE OF THE UNITED STATES.

The following statistics covering the imports and exports of Brazil for the past three years are transmitted by Deputy Consul-General Joseph J. Slechta, of Rio de Janeiro:

Imports and exports.	1905.	1906.	1907.
Imports.....	\$138,545,670	\$152,022,580	\$196,383,316
Exports.....	208,721,350	243,499,615	262,141,005
Excess of exports.....	70,175,680	91,477,035	65,757,689

While the exports of Brazil increased in 1907 as compared with 1905 about 25 per cent, the balance in its favor has materially decreased, the increase in the imports during the same years being nearly 42 per cent.

TRADE WITH FOREIGN COUNTRIES.

Detailed figures for the first nine months of 1907 show that Brazil's imports from the United States during that period increased over the same period in the previous year at a greater percentage than the imports from any other country. The total figures for imports and exports of the four leading countries doing business with Brazil are as follows, for the nine months ended September 30, 1906 and 1907:

Countries.	Imports into Brazil.		Exports from Brazil.	
	1906.	1907.	1906.	1907.
United States.....	\$13,337,000	\$18,810,000	\$56,280,000	\$66,159,000
United Kingdom.....	80,560,000	42,618,000	32,198,000	34,317,000
Germany.....	15,660,000	21,884,000	26,774,000	34,054,000
France.....	10,066,000	12,228,000	16,014,000	27,834,000

The increase in imports from the United States amount to 41 per cent, as compared with the first nine months of 1906. The United Kingdom follows with an increase of 39.2 per cent, Germany with an increase of about 37 per cent, and France with an increase of 21.5 per cent. The first three quarters of the year 1907, therefore, marks a new era in the trade relations existing between the United States

and Brazil. Not once in the preceding decade has the United States given so decided an indication of progress in her export trade to Brazil.

[The United States Bureau of Statistics gives the value of exports to Brazil for the nine months ended with September as \$15,529,562 and for the corresponding period in 1906 as \$11,830,971. The imports from Brazil were \$65,375,746 and \$52,226,015 in the respective periods.—B. of M.]

MARKETING AMERICAN PRODUCTS.

SUGGESTIONS TO MANUFACTURERS REGARDING METHODS TO PURSUE.

Vice-Consul-General Slechta, impressed with the fact that plans are needed for securing to American manufacturers more effective trade representation in Brazil than has thus far been secured, submits the following suggestions:

Special representatives sent here by the more progressive and aggressive manufacturers to study the field find that there is nowhere in Brazil a distinctively American house handling American manufactured products. There are two or three dealers in agricultural machinery in Rio de Janeiro who give preference to certain lines of American goods. Almost all others are concerns with German, British, or French connections, which give decided preference to goods originating in their respective countries. It is easy to see just what this means. In the matter of automobiles, for example, there are in Rio de Janeiro four well-equipped garages with repair facilities, but in not one of them can an American machine receive the same attention as a French, German, or English car. This is due, in a great measure, to their unfamiliarity with American-made automobiles.

During the past year not less than eight large motor-car manufacturers in the United States have had special agents in Brazil, but as yet not one of them has been successful in establishing an agency that does any business for the manufacturer. None of the concerns which have taken agencies of American automobiles are in a position to establish a repair shop and garage facilities, because such a course involves an outlay that the present demand for any particular make of American car does not warrant. As long as these conditions continue Brazilians will buy other than American machines. It is not reasonable to expect individual manufacturers to establish branch houses in Rio de Janeiro, but certainly there are enough American cars of various makes to warrant the establishment of a repair shop and garage especially for American cars.

HOW TO SELL MOTOR CARS AND MACHINERY.

This, it would seem, might be made a legitimate function of the Association of Licensed Automobile Manufacturers. Perhaps for the first six months such an establishment would not pay expenses, but it ought to be the means of securing a foothold for American-built motor cars in a market which is certain to demand an increasing share of attention on the part of the foreign departments of American automobile factories. The association could establish a permanent exposition of American cars and, in connection therewith,

make it their object to work with each member of the organization to the end of securing proper local agents in other Brazilian cities.

A similar exposition established in Rio de Janeiro would do more to stimulate the trade in American agricultural and industrial machinery than any other method expedient at this time. There are many local concerns having agencies of American machinery manufacturers who have no suitable display rooms and who can make no serious efforts to introduce the manufacturers' products. This can scarcely be otherwise, since most of these concerns either have more important European interests, or they carry so diverse a line and have such diverse interests generally as conflict with an agency of this character.

A LARGE FIELD AWAITING DEVELOPMENT.

In many lines of agricultural and industrial machinery the circumstances require that considerable effort be made to create a demand which is as yet only a latent one, but which has tremendous possibilities. This will never be done by indifferent local agents not in the least inclined to spend money in an advertising or educational campaign. An organization like the National Association of Manufacturers ought to be a very efficient medium to undertake the maintenance of a permanent exposition of agricultural, industrial, and other machinery. Their representatives here could become experts in matters of credit and customs regulations, the two most delicate features of Brazilian business operations. They could learn to place agencies advantageously, and when that did not seem advisable, to make suggestions for the establishment of branch houses operated by the manufacturers.

With this city as a basis of operations, a population of close to 8,000,000 can be readily reached by rail. The greater share of this population is devoted to agricultural pursuits. It certainly is not reasonable to suppose that American manufacturers are justified in assuming that there is no greater market for agricultural and industrial machinery in this country than is indicated by the paltry sales of a few hundred thousand dollars worth of such manufactures, so those who have a real interest in getting business here can not do better than take up the matter of establishing in Rio de Janeiro a joint exhibit and in connection therewith an efficient personnel of special representatives who will devote themselves to a study of the markets and methods of developing trade throughout the interior of Brazil.

REPRESENTATIVES OF SPECIALTIES THE MOST SUCCESSFUL.

An agent representing a manufacturer of mining and milling screens, after having visited mines in nearly all other parts of South America, came to Brazil. He visited the only two large gold mines in this country, which are reached by an eighteen-hour journey by rail and several hours by mule back. The largest of these mines has been in the hands of a European syndicate for thirty years and in that time has mined gold to the value of \$145,995,000. This mine has never used anything but European screens. The manufacturer who sent out the agent in question had corresponded with this company for some five years without getting an order, but after an afternoon's visit at the mine their representative sold a trial order amounting to

several thousand dollars. At the other large mine these same screens had been in use for a few months and the superintendent informed the American agent that his manufacturer's screens outlasted any others he had ever tried at a ratio of one to seven. The agent secured another large order here.

A commercial traveler for an American house dealing exclusively in sponges has been in this city for a few days. Practically all sponges on the market here have been bought in Europe, and dealers were surprised upon learning that an American house could import the finest sponges from Mediterranean sources and sell them here in the prepared state at prices much below European rates. This commercial traveler, probably the first one selling sponges exclusively to visit Rio de Janeiro, in three days took orders amounting to \$3,000, and is apparently just started. With some of his customers he has arranged cable codes for ordering direct. His customers will doubtless be permanent ones.

American phonograph companies have apparently waked up to a realization that they were losing much good business in Brazil. For three years European manufacturers of phonographs have had Brazilian records on the market. They sent experts here to take records from Brazilian artists in various musical lines, and the result was that they sold not only most of the records but a majority of the machines.

However, American companies will no doubt regain their prestige now that they have come down here with that intention. One of the largest manufacturers has just completed a preliminary period of work in making Brazilian records, the originals in wax being returned to New York for duplication. Another company has experts at work here now and expects in two or three months to have hundreds of Brazilian records on the market. The latter company has contracted with an American doing business here for the agency in southern Brazil with the expectation of doing \$60,000 worth of business the first year, and there is no reason why they should not realize their expectations.

JEWELRY TRADE.

AMERICAN HOUSES SECURING AN ENTERING WEDGE IN THE BUSINESS.

Consul-General George E. Anderson, of Rio de Janeiro, says that manufacturing jewelers of the United States seem to have an opportunity to develop considerable trade in Brazil, a field which he states is at present served all but exclusively by German and French houses. Mr. Anderson gives the following trade particulars:

One or two American houses have made an effort to get into the trade here, and seem to have had very fair success. In 1906, the last year for which figures are available, Brazil imported about \$250,000 worth of gold jewelry and \$193,000 of silver jewelry, these amounts being in addition to items in which copper was the chief constituent part, christofle, and plated ware of different sorts other than jewelry. Of the imports of gold jewelry and jewelry classed as such, Germany sent about 58 per cent, France about 35 per cent. In silver jewelry Germany had about two-thirds of the trade, France about one-fourth, with the small balance scattered. During 1907 several representatives of American houses came into the trade and reported that they

had considerable success, especially in the line of cheap jewelry. Later figures, therefore, are likely to show considerable returns from the United States, although the bulk of the trade is still where it has been for a good many years, as indicated.

REQUIREMENTS OF THE MARKET.

It is difficult to give a definite idea of the customs and other situation, for the quality of goods varies so much that generalizations are likely to mislead. No particular marks are required of imported goods, and there is no reason why American goods can not be sold as well as any other, if American manufacturers can meet the competition. Styles are in general practically the same as those obtaining in the less expensive goods in the United States. There is a natural leaning in all South America in such matters to French styles and ideas. Whether it can be said that the trade will recognize quality in goods depends altogether upon whether or not the goods are properly presented. There are comparatively few lines of filled goods in vogue here at present, but probably this is a matter of price more than anything else. The goods ought to be presented in no other way than by a direct representative. A manufacturer's agent may sometimes be in a position to get in touch with the trade; but work through cataloguing or even through export commission houses will likely be thrown away. Credits as a rule are liberal. Terms vary considerably, but six months' time with interest from the date of the invoice is reported as a common provision. It is unsafe to quote prices now prevailing, in view of the wide variation in the quality of goods.

[The consul-general forwards a list of Rio de Janeiro business firms for manufacturers wishing to secure further details of the trade or to attempt to secure agents or business by correspondence. These names may be secured from the Bureau of Manufactures.]

EXPORTS OF COPAL GUM.

HOW IT IS COLLECTED—LARGE SUPPLIES AVAILABLE.

For the benefit of American inquirers who are interested in "jatoba" or "jatahy," commonly known as Brazilian copal gum, Consul-General Anderson says that it seems safe to say that considerable business in this product can be done if there is sufficient demand for it to warrant gathering it on a large scale. He adds:

Last year the exports of the product from Brazil amounted, at a valuation of about 67 cents a pound, to a total of about \$9,000. The quality of the gum, as suitable for use in the manufacture of varnish and for some medicinal purposes, is said to be very good. There are large supplies of the product to be had in Minas Geraes in pockets in the ground, being thus collected by the burning of forests containing trees bearing the gum. The gum being thus melted forms pools, which harden and preserve the product. The trade in the gum so far has been so small that there has been no systematic effort to work these sources of supply. American importers desiring to get in touch with possible shippers can best do so by addressing parties whose names are forwarded [filed at Bureau of Manufactures].

BOLIVIA.

AN IMPORTANT COMMERCIAL CITY—GREAT BUILDING ACTIVITY.

Special Agent Charles M. Pepper, in the following report on Oruro, depicts the bright commercial and industrial prospects of that high Andean city, which he says is destined to become the crossroads of Bolivia and where the establishment of an American consulate has been recommended.

Oruro is a city of 20,000 inhabitants with a commercial future which is of interest to everybody who expects to do business in Bolivia either in the way of mining, railroading, or supplying merchandise. For this reason I give some facts in regard to it.

The city is located in the heart of the great central plain at an altitude of 12,000 feet and in the midst of an extensive mining region. It is about 575 miles distant from the Pacific coast ports of Antofagasta and Mollendo, respectively. The railway from Antofagasta has been in operation for several years. The through connection to Mollendo across Lake Titicaca will be made in July when the central section of the railway system which the Speyer-City Bank Syndicate is constructing is completed. Commercial travelers and tourists will then have the opportunity of reaching Bolivia from one port and leaving by the other port. This through trip will be advantageous in the chance it affords to note the resources and the commercial possibilities of the country.

The population of Oruro is cosmopolitan, including English, Germans, French, Italians, Americans, Chileans, and Peruvians. This is due to its position as a mining center. One of the greatest of the tin mines is in the heart of the city itself. Other tin and silver mines surround it. Among the best known mines are the Socavon, the San Jose, the Itos, and the Mercedes. There are also many smaller mines. The ore or concentrates from points distant 150 miles and more are brought into Oruro by pack trains of llamas and burros and then shipped out over the railways. Small smelters are 12 to 15 miles distant at Machamarca.

The political administration of the Department is centered at Oruro, which is the headquarters of the prefect and the subordinate officials. An important branch of the political administration is the custom-house. Since an export tax is levied on all the mineral products, the importance of an interior custom-house at a common shipping center will be understood. The bulk of the minerals from the Department of Potosi also comes to Oruro for shipment. The customs officials are required to give a certificate for every ton of ore shipped, otherwise the railroad company can not accept the cargo.

DISTRIBUTING POINT—NEW RAILROAD LINES.

From its situation as a distribution point for the minerals it naturally follows that Oruro is a distributing center for imported merchandise. Machinery and mining supplies are handled for a district hundreds of miles in extent. There are some large warehouses and quite extensive stores for retail trade. In addition to machinery about every class of goods that is required in a comparatively cold climate is kept in stock. This covers textiles, boots and shoes, canned goods, flour, and packing-house products. All of these articles are usually handled by a single firm.

Hitherto the limitation on the growth of Oruro has been the lack of railway facilities for the interior points. This condition is changing and within a few years the city will become the railway crossroads of Bolivia. After the connection with Lake Titicaca is completed the building of the branch lines will begin. One of these starting from some point on the existing railway between Oruro and Uyuni will reach Potosi. Another line will run to the city of Cochabamba, which is itself an important commercial point and is in the center of a rich agricultural valley. The Cochabamba line ultimately will be prolonged to the Chimore River and will thus give a railway outlet from the tropical regions to Oruro.

The commercial future of the city has not yet been discounted. When tin was at the top-notch figures there was unusual activity and some increase in population, but hardly what would be called a boom. The depression in the mining industry, which caused some of the smaller mines to shut down and others to restrict their operations, resulted in a temporary decrease in the number of inhabitants, but the recovery from this is already felt. Though the commercial and mining situation is quiet, Oruro has lost none of its prestige. The prospect is that it will continue to grow steadily. In addition to its advantages as a mining center it will be the headquarters of the railway companies, which will have their shops and roundhouses established here and will provide means for a considerable population of artisans and mechanics.

BUILDING ACTIVITY—AMERICAN FIRMS AND CONSULATE.

There is at present more building activity in Oruro than in any other city of Bolivia. Nearly all the houses, whether dwellings or stores and warehouses, are of a single story, but the new buildings are of two and, in a few instances, three stories. They are mostly of brick and mortar or adobe and wood, structural steel not having been employed in perceptible quantities. There has been, however, a market developed for builders' hardware, some of which has come from the United States. Yet there has been less use of sheet-iron roofing than was to be expected, recourse having been had to tiles.

The business of Oruro as a distributing center heretofore has been largely in the control of European houses. Not only the Germans and the English, but also Austrians have had a share in it. Some of these get goods from the United States, though not in large quantities. There are two American firms, one of the leading American houses on the West Coast having established a branch two years ago. The other firm has been established longer and conducts a retail as well as a wholesale business. [The names of both houses are filed with the Bureau of Manufactures.] It should be added that Oruro has nine banking institutions, the leading banks on the West Coast being represented either by branches or by agencies, while all the principal Bolivian banks have branches.

The commercial importance of Oruro is so well assured that the recommendation of Minister Sorsby for the establishment of an American consulate is fully justified. The railway interests which in the future will predominate will be American. Some of the mines also will undoubtedly be developed by American capital, and a trade grow up with the United States which should receive encouragement by providing an American consul.

CHILE.

PHARMACEUTICAL SUPPLIES.

UNITED STATES SHOULD HAVE MORE TRADE IN DRUGS, PERFUMERY, ETC.

Consul Alfred A. Winslow makes the report from Valparaiso that there is a large demand for foreign perfumery, drugs, medicines, and chemical products in Chile, amounting in 1906 to \$1,434,024 United States currency, the details following:

The sum of \$183,636 was spent for perfumery; \$708,219 for drugs and medicines, and \$542,169 for chemical products. The imports for 1907 will show a good increase over these figures in these lines. Of the perfumery the United States supplied less than 10 per cent, while France supplied more than 50 per cent, with England next and Germany third; of the drugs and medicines the United States supplied 26 per cent, and France a like amount, with Germany and England in the order named; of the chemical products the United States supplied less than 4 per cent, while Germany furnished more than 50 per cent, England coming next with about 20 per cent.

There does not seem to be any reason why the United States should not have a large portion of this trade if the markets are studied and an effort is made to get it. American products stand well and will replace other goods if the trade is supplied on equally as good terms. From what this consulate can learn there has practically been no effort made until lately to secure this profitable business. The most effective way to get it is to send a good salesman into the field. This will bring quicker results and be cheaper in the end than trying to get it by correspondence.

The duty on perfumery ranges from 33 to 88 cents per kilo (2.2 pounds); on drugs, medicines, and chemical products it is 25 per cent on a fixed valuation per kilo, which, in many instances, is below the market value.

Great care should be taken to pack this class of goods very carefully. This is an important matter with all lines for this market, but it is especially true of drugs and medicines.

PUNTA ARENAS TRADE OUTLOOK.

INDUSTRIAL ACTIVITY AT THE WORLD'S MOST SOUTHERN CITY.

In reporting that Punta Arenas is the only free port in Chile, Consul Winslow gives the following commercial information concerning this far southern port:

It has a population of about 12,000, with a rapidly developing country depending upon it as the base of supplies. The business of the place has more than doubled within the last four years, and the future promises well. The outlook for business is good, and here is a place where American goods should sell well. At present nearly everything comes from Europe. But few American goods are seen in the shop windows. It will pay to work this field thoroughly. There are two freight steamer lines reaching this port direct from New York, so shipping facilities are good.

Sheep farming and mining are the principal industries of the country around Punta Arenas. There are upward of 3,000,000 sheep now in the country tributary to Punta Arenas, and they are

rapidly increasing. The climate seems to be especially adapted to the growing of heavy and fine fleeces of wool. During the past year three extensive sheep-slaughtering and cold-storage plants have been erected near that place, with a present capacity of handling 300,000 sheep per year. A line of steamers has been arranged to take the dressed sheep to the London market, where good prices are paid for the mutton.

Many of the sheep ranches are situated 50 to 100 miles from the base of supply, and it is proposed to use traction engines and automobiles as the means of communication over the level prairies, many of which are barren wastes, the grazing portions often being located many miles apart. Four 40-horsepower German traction engines have just been put in service from that port. One of these engines will pull a train of three or four wagons loaded with freight across these plains at the rate of from 4 to 6 miles per hour. Here is an opening for some American traction machines.

[A list of the principal business houses at Punta Arenas is forwarded by the consul. Copies of same may be obtained from the Bureau of Manufactures.]

COLOMBIA.

A BRITISH OFFICIAL REPORTS ON TRADE REQUIREMENTS OF BOGOTA.

Writing on the subject of British trade in Colombia, the British minister at Bogota says in part:

There are no British business houses here, and it would be unwise for firms of the United Kingdom to employ foreigners who are or may be agents for competing firms of their own nationality. Very few British travelers now come to Bogota. British trade suffers in competition on this account, for the presence of good travelers is not only necessary in order to inform the houses at home of the changes in the requirements of clients and in the standing of houses here, but it facilitates the sale of goods.

There are comparatively few British firms that export goods to Bogota, and these do so principally from Manchester, Birmingham, Leeds, and Glasgow, shipping mainly cotton goods, hardware, woollen goods, sewing cotton, and machinery. In gray cloth Manchester holds the Bogota market. Gray drills are imported from the United States, in pieces of 40 yards, weighing about 12 pounds. This diagonal drill is one of the principal imports of cotton goods from the United States, and has not been imitated successfully in the United Kingdom or anywhere else; a great quantity of it is consumed here.

Bleached goods are imported almost exclusively from the United Kingdom, as Manchester is able to meet the requirements of the Bogota market. Small quantities do, however, come from the United States. Their makes are of good qualities, 19 by 22 and upward, and are of heavy yarns, but they do not rival the Manchester goods in finish. The favorite finish here is the soft, and the old starchy ones are fast disappearing from the market. There is very little demand for Croydons, but orders for light weight sheetings have increased.

CALICOES AND SUITINGS.

Manchester has to meet a growing competition in printed cotton goods from many parts of the world. German prints have not, it is true, been a success, but United States prints were introduced at a time when, owing to heavy crops of cotton, very large stocks were to be had for export at less than cost price; they held the market for some time, but their competition afterwards slackened and exists chiefly owing to the fact that commission agents in the United States can furnish supplies at short notice and cheap prices from stocks on hand, but greater trouble is taken in the United Kingdom with regard to packing and compliance with the client's wishes, and this is fully taken into account. Nevertheless, the Manchester manufacturers should watch this class of competition, for there have been seasons when the United States absorbed a good share of the orders. From 1904 to the end of 1906 the demand diminished,

but in 1907 orders have largely increased, as the American manufacturers have been printing red and blue patterns very well. The prints of the United States are more or less of one width, viz, 28 inches, and one quality, viz, a light 16 by 18, and the assortment of patterns is very limited.

In cotton suitings Manchester has to compete against Italy and Spain, as these countries are able to export their goods at about the same price as the United Kingdom. The Manta Italiana is a drill which resembles woolen cloth pattern. It has displaced the Manchester printed moleskin and printed drills, which were shipped here in considerable quantities.

MINING MACHINERY AND HARDWARE.

Mining machinery usually comes from the United Kingdom. Pelton wheels, which are much used, come from the United States. Catalogues should state the smallest weights into which the machinery can be divided. Comparatively few places in Colombia can be reached without resort to mule transport, and, where possible, pieces should not exceed 150 pounds in weight. The amount of machinery, especially for mining purposes, which has been brought to the country and abandoned on the road would surprise anyone unacquainted with the mountainous parts of Latin America. British manufacturers are now, however, better informed respecting local conditions than was the case formerly, and it is believed here that, taking machinery as a whole, the greater part now comes from the United Kingdom. As soon as the railways now under construction or in contemplation are completed there will be a greatly increased demand for machinery of various kinds.

Hardware from Birmingham is not as well introduced in this market as it should be. Many orders for cheap goods of inferior quality are still placed in Germany, but the better class of hardware comes mostly from the United States, and has done so for many years. For example, the American machete, an article in almost universal use, holds the market. American tools are lighter in weight than British, which is no small matter for the importer in view of duty being chargeable on weight. Barbed wire for fencing, for which there is a large demand, comes almost entirely from the United States. Enameled hardware comes from Germany, as the quality required is inferior to that made in the United Kingdom.

ARGENTINA.

STATISTICS OF LAST YEAR'S TRADE—INCREASED EXPORTS THIS YEAR.

The statistics of the foreign trade of Argentina for 1907, as made public in Buenos Aires in March, show exports (in gold dollars of the value of 96½ United States cents) aggregating \$296,204,369 and imports of \$285,860,683. Compared with 1906 there was an increase in imports of \$15,890,162 and in exports of \$3,950,540. The classification of the exports was:

	Value.	Increase.	Decrease.
Pastoral products.....	\$123,820,205		\$316,234
Agricultural products.....	164,091,621	\$6,436,929	
Forestal products.....	5,342,857		579,502
Mineral products.....	565,039	291,223	
Products of the chase.....	829,559		268,941
Various.....	1,155,588		1,612,935

The small increase in exports was due to the partial failure of the corn crop, the exports of that grain decreasing \$23,711,708, and to the lessened exportation of hides and skins. There was an increase of \$16,485,000 in the value of exported wheat and flour, of \$10,165,365 in linseed, and of \$2,476,213 in oats.

THE CAUSE OF THE INCREASED IMPORTS.

As regards imports, the net increase of nearly \$16,000,000 gold was due to the augmented importation of liquors, paper, furniture, agri-

cultural implements, building materials, railway carriages, wagons, locomotives, steel sleepers, and railway materials in general. The importation of articles of food also augmented considerably, but there was a falling off to the amount of \$6,796,848 gold in textile materials and manufactures. This is the consequence of the increasing development of the so-called "national industries" devoted to the making up of silk, woolen, and cotton materials. The importation of sugar increased largely owing to the partial failure of the Tucuman crop of sugar cane.

The imports from the United Kingdom increased by \$3,100,000 to \$97,900,000 gold, but those from Germany increased by \$7,300,000, though the total reached only \$45,800,000. The exports to the latter country diminished by nearly \$3,000,000, the amount being \$36,400,000, while the exports to the United Kingdom increased by \$10,500,000 to \$53,700,000. This latter amount does not include Great Britain's share of exports for orders, perhaps nearly two-thirds of the total, \$93,000,000. The remainder was probably divided between Germany, France, and Belgium. The Argentine statistical department has been unable to classify these exports according to nationalities.

DECLINE IN UNITED STATES TRADE.

The exports to and imports from the United States both diminished. According to the figures of the United States Bureau of Statistics the exports to Argentina in 1907 were of the value of \$30,111,672, a decrease from 1906 of \$3,159,897. The imports from Argentina were \$16,171,129 in value, a decline of \$2,120,239.

The exports of grain this year are officially estimated at 4,250,000 tons of wheat; 1,200,000 tons of linseed; 600,000 tons of oats, and 2,000,000 tons of maize. Up to the middle of March the exports of wheat, oats, and linseed were nearly double the quantity exported in the same time last year.

MEXICO.

AMERICAN MUSICAL INSTRUMENTS.

DEMAND FOR PIANOS AND PHONOGRAPHS—EUROPEAN COMPETITION.

Special Agent Arthur B. Butman, writing from Mexico City, tells of the increasing demand in Mexico for American pianos and phonographs, while Germany and France supply most of the brass and string instruments. He says:

The importation of pianos into Mexico is steadily increasing, and the Republic offers at the present time a good field for this and for various other musical instruments. The Mexican people are, as a whole, a music-loving people and possess as well a natural taste for what we know as "good music." I am told that previously to a somewhat recent period, possibly ten or twelve years ago, musical instruments of American manufacture were comparatively unknown in this country. A limited number of American-made pianos of the high-grade class were introduced at the time mentioned and finding favor the trade has constantly grown. French and German pianos were on the market before the advent of the American instrument, and at present we meet strongest competition from the latter makes. Dealers state that American pianos are now considered firmly established on the market, and that they are constantly becoming better known and

more popular with the Mexican buyer. During the fiscal year 1907 the United States exported to Mexico \$110,805 worth of pianos and in addition \$5,689 in value of pianolas, etc. For the year 1906 the total value of pianos exported from the United States amounted to \$638,501, and for the calendar year 1907, \$1,050,343, exclusive of \$675,105 in value of pianolas and other piano players. Mexico furnished the second largest market during 1906, purchasing pianos to the value of \$85,050, Canada taking the lead in purchasing \$211,340 worth, and the United Kingdom third with an import valuation of \$84,717. The exports of pianofortes from the United States to Mexico in the fiscal years mentioned were as follows: 158 in 1902, valued at \$36,197; 192 in 1904, valued at \$43,694; 380 in 1906, valued at \$85,050, and 443 in 1907, valued at \$110,805.

The average pianoforte of American manufacture is considered in Mexico better in construction and of higher class than the average instrument of our competitors, and it is, as a rule, a little higher in price. The high-grade American pianoforte is acknowledged here, as in the musical world generally, a superior product. American instruments of this grade are for sale and find purchasers among the wealthier classes and the professionals. Those pianos, however, which sell most readily in Mexico are priced at from \$300 to \$400 gold.

STYLE AND FINISH PREFERRED.

For the most successful furtherance of sales it is very desirable, if not absolutely imperative, that piano makers, as well as other manufacturers sending their goods to this country, cater to the tastes and maybe to the whims of the people, whether such requirements be in accord or at variance with their own personal ideas. It may be stated that the Latin-American taste is usually more ornate than that of the American across the border. The Mexican trade demands an elaborate piano case decorated with candelabra, and European pianos are invariably furnished with such. I am informed by a dealer in Mexico City who handles American pianos exclusively that in order to effect sales of our instruments with the Mexican buyer he is obliged to add these ornaments. The cost to the manufacturer is insignificant when compared with the price of the piano, and the German exporter, who seldom neglects a detail which may please a purchaser and in turn be a personal benefit, always furnishes his instrument as above described.

It is essential that the cabinet work be good. Ebonized wood is preferred to all others; probably 95 per cent of the pianos sold here are in the black finish. One feature which has proven of great help in advancing sales of American pianos in Mexico is the guaranty given by the manufacturers covering a period of five, and in some instances, ten years. In styles both grands and uprights are sold; the latter being naturally the popular piano. A matter of vital importance, which should receive the attention and study of piano makers in the United States wishing to introduce makes here, is the Mexican climatic conditions, and their action upon the pianoforte.

I am given to understand that American makers extract every possible atom of moisture from the wood which goes into the construction of a pianoforte for use in the United States. For use in Mexico such preparation is almost suicidal to the instrument, since pianos destined for this country must contain a certain percentage of moisture in the construction wood in order to possess satisfactory

wearing qualities. It would seem that the possibilities of the Mexican piano market justify a study of its detail requirements by those interested in the piano trade.

The following instructions for shipments of pianos and organs to Mexico should be valuable to those interested:

Mexican custom-house regulations require that net legal and gross weights of each package be given exactly. Net weight is the weight of the instrument without wrapping or packing. Legal weight is the weight of the instrument including wrapping and any other packing excepting the outer shipping case or box. Since in many cases duty charges are based on legal weights, interior wrappings should be as light as is consistent with safety. Invoices should specify the contents of each package, and each package should be plainly numbered in consecutive order to correspond with the invoice. Invoices should be made in duplicate, original being mailed to the buyer direct, and a duplicate mailed to the customs agent at the border. Consular invoices should be made in triplicate, the original mailed to the customs agent, a duplicate accompanying shipment, and a triplicate mailed to the buyer direct.

For shipment of piano scarfs, if any portion be of silk, either scarf or fringe, the same must be specified; if all cotton, this should be stated on the invoice. Traveling cases of portable organs, etc., (of wood), pay a smaller duty if shipped in separate packages; consequently when practicable the instrument should be shipped separately and not in the traveling case. The duty on pianos and organs entering Mexico is 55 centavos per legal kilo (2½ pounds).

PHONOGRAPHS AND CLASSICAL MUSIC POPULAR.

Phonographs or talking machines are in greater demand in Mexico, at the present time, than any other musical instrument. Phonographs are purchased by all classes in all portions of the Republic—in the large cities and near-by towns, in mountain villages far removed, on haciendas, and in isolated mining camps; and for use in the last-mentioned localities the demand is widespread. The phonograph of American manufacture predominates and in reality holds the market. A French machine, possibly a German, and formerly an Italian were found, but the field is practically held by the Americans—and nearly, if not all makes, are represented—with small competition from the French.

I am informed that the classes of music best suited to the Mexican trade are classical and operatic, marches and two-steps, or other dance music. Ragtime and plantation melodies, so popular with a portion of our masses, do not largely appeal to the people here. In Mexico one hears the bootblack or the newsboy whistling selections from classic and operatic airs, rather than from what we know as the "popular songs." I have many times during my stay in the Republic noted in the various towns gatherings of one, two, or three dozen peons, huddled as closely as may be before the open doorway of a music store, from whence issued the sounds of a phonograph, and playing nearly always a classical selection or one from some famous opera. In style, the disk machine is the most popular.

STRING AND BRASS INSTRUMENTS.

A good proportion of string instruments come from the United States, with German instruments of like character in keen competi-

tion. The cheaper grades of violins and guitars find considerable sale among the lower classes, whose small purchasing power necessitates the requisite of low cost. Italian strings are considered the best and have the largest sale. Rosin is principally secured from Germany owing to price, this being approximately one-third less.

Mexican bands are numerous and there is a fairly large demand for brass instruments throughout the Republic, which is principally supplied by France. French instruments are much better known than the American, having been long in the field, and, perhaps partially for this reason, better liked. The pitch of the French-made brass instrument—one-half tone higher than our own—is preferred, and likewise French instruments of high grade are lower in price than American of the same class.

American sheet music obtains a fair sale at present, and it has been suggested to me that American sheet music publishers might do well to publish vocal selections in the Spanish language, since the sale for such would undoubtedly be sufficiently large to warrant the action. However, this should be a matter for the publishers' own determining, after possessing a good knowledge of the Spanish requirements based upon personal investigation.

Catalogues of musical instruments sent to Mexico should be printed in the language of the country; if printed in English they are comparatively worthless.

TRADE OF CIUDAD PORFIRIO DIAZ.

THE SALE OF AMERICAN FOODS CAN BE INCREASED IN THAT MARKET.

In reply to an inquiry from an American manufacturers' association, Consul Luther T. Ellsworth furnishes the following information in regard to the consumption in Ciudad Porfirio Diaz of products similar to those manufactured by that association:

The trade of this Mexican district is naturally with the United States, because of its proximity and the quality of the goods imported therefrom, but many European countries are receiving a considerable share. Trade can be secured here in almost every article produced by the association, but representatives speaking Spanish and experienced in dealing with merchants of Latin America should be sent.

American products are well known here, and are satisfactory in every respect. Of the class of goods manufactured by the association making the inquiry, the following were imported from the United States in 1907:

Articles.	Value.	Articles.	Value.
Agricultural implements.....	\$56,000	Machinery—Continued.	
Bath tubs.....	3,500	Stationary engines, boilers, tanks, etc.....	\$88,660
Carriages, cars, etc.:		Woodworking machinery.....	3,630
Carriages and wagons.....	184,941	Malleable iron.....	8,625
Mining and railway cars.....	137,321	Metal roofing.....	12,540
Wheelbarrows.....	2,965	Proprietary medicines.....	39,594
Furniture.....	77,963	Stoves.....	19,515
Hardware, for saddles.....	1,030	Total.....	685,484
Hosiery.....	1,275		
Machinery:			
Locomotives.....	49,925		

TRINIDAD.

LARGE SALE OF AMERICAN PRODUCTS IN WEST INDIAN ISLANDS.

In answer to a Galveston inquiry, Consul Wm. W. Handley writes as follows in regard to importations into the West India island of Trinidad during the past year:

There were 234,368 barrels of flour imported during the year 1907, 95 per cent of which came from the United States; the balance from Canada. During the same period 44,719 gallons of edible oils were imported, mostly from France, the American share being about 25 per cent, which consisted chiefly of cotton-seed oil.

There is a large consumption of packing-house products in this colony. During 1907 there was imported 6,976,103 pounds of meat, consisting of barreled beef and pork, sausage (smoked), dried and canned meats. Of this amount the American share totaled 6,236,998 pounds, consisting principally of canned beef, barreled beef and pork, smoked ham and bacon, etc. Of the 1,889,000 pounds of lard and lard compound imported 95 per cent came from the United States. The sale of American oleomargarine increased 18 per cent last year, the United States having supplied 200,000 pounds. The outlook for more trade in this line of goods is encouraging.

All the hewn and sawn timber comes from the United States. About 10,000,000 feet was imported last year, which came principally from the Gulf States. [The importing firms of Trinidad are listed at the Bureau of Manufactures.]

CANADA.

PURCHASES OF ONTARIO.

UNITED STATES PRODUCTS LEAD IMPORTS INTO CANADA.

Consul H. D. Van Sant states that the principal lines of goods from the United States for which a steady and generally ready market can be held or obtained in the Kingston district and Ontario, Canada, notwithstanding other keen outside competition, are the following:

Carriages, carts, and wagons, the American makes being highly regarded and generally sold cheaper than English or even Canadian makes. Drugs, chemicals, dentists' supplies, fancy and staple toilet goods are in good demand. The American brands are constantly increasing the already large sales in these lines.

American marine engines are having a ready sale in Kingston this spring. One firm from across the line has just sold a \$3,000 engine here, while more than a dozen smaller and less expensive ones have been ordered or delivered. It is safe to say that more than one hundred new American marine or motor engines have been sold here in a little over two years. This consulate has aimed to do its share toward introducing and bringing about some of these results.

Electric apparatus, gas engines, and gas stoves and fixtures, hardware tools and implements find a ready demand and generally profitable market along the border. In the line of machines and machinery the sales of the United States increased from \$5,877,942 in

1906 to \$7,621,673 in 1907, while the sales of Great Britain, the nearest competitor, amounted in 1906 to \$261,989, and in 1907 to \$575,436.

MISCELLANEOUS GOODS—EUROPEAN COMPETITION.

In oils and paints, paper and manufactures of paper, wood and manufactures of wood, including furniture, tobacco, fruits, canned goods, electro-plated and silver ware, leather, and boots and shoes, the United States holds the leading market generally, and with diligent and proper effort the results already achieved can be sustained and in growing sections this trade increased.

In some lines, notably guns, cutlery, and toys, the German is underselling both American and English competitors, while the Canadian preferential tariff in favor of Great Britain is probably the most important measure in building up trade between Canada and the mother country, to the loss of the United States. Yet in the long run, notwithstanding the keenest competition and sentiment, the natural advantages in geographical position and common commercial interests and tastes seem to count favorably, and the import of manufactures from the United States continues to lead. To hold this position the American exporter is cautioned to watch the situation and meet every new wave of industrial competition by extending fair trade inducements to Canadian merchants who buy from abroad. There are no complaints against American packing methods here, and the usually admitted superiority of American goods and their quick transit across the border, along with the low average of breakage and damage, has aided largely in bringing about this leading trade position.

LOG EMBARGO REMOVED.

BRITISH COLUMBIA TEMPORARILY ALLOWS SHIPMENTS ABROAD.

Consul Abraham E. Smith, of Victoria, reports, under date of March 25, that an order-in-council has just been issued by the provincial government of British Columbia removing the embargo against export of all logs now in water. He adds:

This will greatly help the Canadian loggers, who have been seriously handicapped financially the past six months, owing to the great falling off in the demand for lumber in the Northwest, to secure funds to pay off a portion of their indebtedness and also enable them to start up logging camps in the spring.

American lumber mills on Puget Sound have had representatives in the province seeking to purchase British Columbia logs for some time, and the order lifting the embargo was no sooner issued than a boom of logs was at once dispatched to an American mill in Puget Sound. The rush of logs from British Columbia to mills in Ballard, Port Blakeley, and other points, will now be quite active, as the provincial mills have for some time been very anxious to export and realize on same.

A close estimate gives the value of logs now in water affected by this order at \$500,000, and includes between 60,000,000 and 80,000,000 feet of fir, cedar, and spruce logs—varieties needed by Puget Sound mills. This relieves the tension in lumber circles in British Columbia and furnishes needed timber to mills in Puget Sound. It is understood the order will be canceled at end of season—in October—

and the embargo renewed, as the Government believes its permanence would retard the erection of lumber mills in the province.

DOMINION TRADE REVIEW.

BOTH IMPORTS AND EXPORTS SHOW GAINS OVER LAST YEAR.

According to figures printed in a Toronto journal, transmitted by Consul R. S. Chilton, jr., of that city, the foreign trade of Canada for the eleven months ended February 29, 1908, amounted to \$589,755,974, an increase over the same months of 1906-7 of \$30,156,704. The imports amounted to \$328,321,453, and the exports to \$261,434,521, an increase over the same period of the previous year of \$24,798,784 in the imports and of \$5,357,920 in the exports. The exports by classes show the following increases and decreases: Products of the mine and agriculture, increases of \$2,410,000 and \$14,700,000, respectively; products of the fisheries, forest, and animals and their products, decreases of \$16,000, \$1,700,000, and \$12,150,000, respectively.

ITALY.

REVIEW OF TRADE.

STATISTICS OF IMPORTS AND EXPORTS FOR THE PAST TWO YEARS.

Consul James E. Dunning, of Milan, forwards the following report on Italy's foreign trade for the first eleven months of 1907, made by Clerk Siersdorfer of his post:

The Milan custom-house supplies the following statement of Italian exports and imports for the first eleven months of 1907, compared with the same period of 1906:

Articles.	Imports.		Exports.	
	1907.	1906.	1907.	1906.
Spirits, drinks, and oils.....	12	83	22	18
Tobacco, drugs, and spices.....	25	68		47
Chemicals, medicines, etc.....	43	18	1	64
Dyes and tans.....	47	68		61
Hemp, flax, jute, etc.....	23	68	1	60
Cotton and cotton goods.....	26	82	2	85
Wool, horsehair, and fur.....	43	47		35
Silk and silk goods.....	75	73	10	87
Wood and straw.....	27	80		64
Paper and books.....	51	68		61
Hides and skins.....	37	60		36
Minerals, metals, etc.....	62	16	1	47
Vehicles.....	44	86		65
Stoneware, glass, etc.....	61	48	1	38
Rubber and gutta-percha.....	63	55		45
Cereals.....	91	71	5	13
Animals and their products.....	31	92	3	69
Precious metals and coins.....	10	70		64
All other goods.....	24	35		25
Total.....	518,491,884	457,672,737	226,985,254	223,918,030

Imports into Italy and exports from Italy for the first eleven months of 1907 is as follows for six of the most important countries:

Country.	Imports.	Exports.	Country.	Imports.	Exports.
United States.....	\$56,380,420	\$39,737,735	Austria.....	\$42,358,096	\$26,280,088
Germany.....	89,193,406	49,669,123	France.....	43,040,351	35,014,446
Great Britain.....	85,983,263	26,150,729	Switzerland.....	13,124,965	57,446,064

[The United States Bureau of Statistics gives the value of the exports to Italy for the first eleven months of 1907 as \$46,690,607 and the imports as \$48,688,620.—B. of M.]

Italy's exports to South America, including Argentina, Brazil, Chile, Peru, and Paraguay, during the first eleven months of 1907, amounted to 112,912 tons. This does not include 1,556,228 hats and 200,736 umbrellas exported. Argentina bought 86,693 tons of this stock, together with 682,025 hats and 73,086 umbrellas. Italy's imports from South America during the first eleven months of 1907 amounted to 85,990 tons, not including 14 oxen. The imports of nitrate of soda from Chile, which is the chief article imported from South America, amounted to 38,281 tons. This amount is included in the above figures.

TRADE WITH THE UNITED STATES.

The following table shows Italy's imports from the United States for the first eleven months of 1907, in weights and values, as received by the consulate from Italian official sources:

Articles.	Tons.	Value.	Articles.	Tons.	Value.
Cotton-seed oil.....	2,843	\$329,065	Automobiles.....	* 52	\$28,950
Mineral oils.....	73,929	2,947,689	Mineral phosphates.....	66,330	446,988
Tobacco.....	14,872	8,581,514	Stone and earthen ware, etc.....	4,800	238,162
Sulphate of copper.....	1,171	146,873	Coal.....	9,951	53,947
Solid paraffin.....	8,825	996,073	Rubber and gutta-percha..	35	182,977
Chemicals, medicines, etc.....	13,950	681,882	Cereals.....	175,277	6,292,958
Raw cotton.....	136,779	35,373,812	Salted meats and lard.....	4,885	1,416,234
Lumber.....	130,760	2,360,776	Fish.....	4,801	787,440
Shooks and staves.....	10,894	437,338	Pork fat.....	1,552	404,335
Hides and leather.....	250	227,547	Other fats.....	4,085	536,154
Raw copper, brass, and bronze.....	9,344	8,967,308	Sundries.....	62	88,201
Raw lead.....	8,132	271,987	All other goods.....		1,636,061
Machines and parts.....	9,708	1,932,316			
Scientific instruments.....	285	970,983	Total.....	688,020	66,187,420

* 52 automobiles in number.

The following table shows Italy's exports to the United States in weights and values for the first eleven months of 1907, as received by the consulate from official sources:

Articles.	Tons.	Value.	Articles.	Tons.	Value.
Wines.....	8,525	\$945,507	Kid gloves and hosiery....	* 204,000	\$94,184
Olive oil.....	10,567	2,190,743	Tanned hides and leather goods.....	5	14,475
Vegetable extracts.....	277	845,147	Machines and parts.....	123	26,441
Calcium citrate.....	2,051	514,588	Automobiles.....	* 40	174,472
Raw tartar.....	4,448	772,579	Marble, raw and worked..	55,861	900,731
Chemicals, medicines, resin, perfume, etc.....	21,998	760,298	Sulphur.....	4,197	77,972
Sumac.....	5,222	196,509	Macaroni and flour.....	40,977	3,081,245
Hemp, raw and carded..	1,386	285,640	Oranges and lemons.....	99,629	1,744,527
Manufactures of hemp, linen, and jute.....	1,272	372,876	Dried fruits.....	9,030	1,411,796
Cotton textiles.....	212	352,611	Preserves.....	6,847	1,464,677
Wool and wool waste....	88	44,583	Tomatoes in cans.....	8,310	641,533
Horsehair.....	161	161,541	Cheese.....	4,914	1,892,365
Raw silk and silk waste..	1,763	13,923,020	Hats, unfinished.....	26	300,887
Silk ribbon and textiles..	74	879,887	Coral, raw and worked..	4	164,050
Other silk goods.....	6	76,621	Sundries.....	32	32,810
Furniture and wooden- ware.....	1,058	256,883	Hats, finished.....	* 3,318,800	1,089,069
Straw braid.....	504	389,860	Art objects.....		867,472
Paper and books.....	561	395,650	All other goods.....		2,575,971
Raw hides.....	945	320,537	Total.....	291,163	39,747,735

* Number of pairs.

* Number of automobiles.

* Number of hats.

EXPORTS OF FARM PRODUCTS.

FOOD SUPPLIES SENT TO ITALIAN RESIDENTS IN THE UNITED STATES.

Consul C. S. Crowninshield, of Naples, submits the following report on the opportunities for American farmers to supply certain food products now procured in Italy:

The large number of Italians and persons of Italian origin domiciled in America has, of late years, created a constantly growing demand for Italian vegetables and food products. Instead of the United States sending farm produce to Italy, the situation is quite the reverse.

A list of exports, relating solely to farm products, from this consular district for the calendar year of 1907 is appended:

Articles.	Total for the year 1907.	Articles.	Total for the year 1907.
Almonds.....	\$4,445	Olives.....	\$2,370
Artichokes.....	8,119	Olive oil.....	74,525
Beans.....	64,850	Onions.....	15,526
Cheese.....	531,800	Peppers.....	18,098
Cherries.....	329,397	Tomatoes.....	440,929
Chestnuts.....	54,307	Walnuts.....	77,883
Filberts.....	176,648	Wine.....	358,734
Garlic.....	70,183		
Hams.....	3,848		
Lupins.....	8,190	Total.....	2,239,852

Several of the articles mentioned in this list are not grown to any extent in America. The tomatoes, for example, are the small Italian variety. They are exported in the form of canned peeled tomatoes and tomato paste, so prized as a sauce for macaroni. The nuts, in quality, are peculiarly Italian. A good quality of garlic is already grown in some southern States. Italian cheese is a large item. It is mostly made from goat's milk, however, which may make its production impracticable in America. Wine sells so cheaply here that competition may be out of the question. The beans and onions can certainly be grown in America.

THE DEMAND SHOULD INTEREST AMERICAN FARMERS.

It seems probable that this trade, or a considerable portion of it, could be secured by American producers, but the tastes and wishes of the consumer must be carefully consulted and satisfied. The American farmer can compete successfully with the Italian farmer, as the latter, in spite of the advantage of cheap labor, has freight and duties against him.

In many cases American goods could be made to take the place of foreign articles. Italian cherries, for example, are said to be finer than those produced in the United States, but with care in production and preserving, the American goods might capture the market. The Italian market in the United States is only considered in this matter, for American farmers can not hope for an opening in Italy at present.

There are surely large sections of the United States where many of these articles can be produced to advantage, but the farmer must be made aware of the demand and the consumer persuaded to buy. It is simply a question of catering to a foreign taste which exists at home.

GERMANY.

EXPORTS TO UNITED STATES.

THE LARGEST VOLUME OF SHIPMENTS MADE DURING THE PAST YEAR.

In transmitting a tabulated statement of the values of the declared exports from Germany to the United States by consular districts for the calendar years 1906 and 1907, respectively, and the general totals of the four last calendar years, Consul-General A. M. Thackara, of Berlin, makes the following comments:

The value of the exports for last year, namely, \$159,458,798, was the largest known in the history of the commercial relations between the United States and Germany. That the unprecedented flow of trade which has existed between the two countries during the last three years has received a check is, however, clearly indicated in the falling off of the ratio of increase in the values of declared exports in 1907 as compared with previous years. The exports to the United States in that year were only 4.1 per cent greater than in 1906, while the increase in 1906 over 1905 was 21.4 per cent and in 1905 over 1904 the increase was 13.4 per cent.

The value of the declared exports from this consulate-general during 1907, not including its agency at Sorau, was \$15,915,418, an increase of 21.6 per cent as compared with 1906. The number of invoices consulated was 14,753, an increase of 2,413, or 20.1 per cent, over the previous year.

THE TRADE BY CONSULAR DISTRICTS.

The following figures show the declared exports from Germany to the United States by consular districts during the calendar years ended December 31, 1906 and 1907, respectively:

Consular district.	1906.	1907.	Increase or decrease.
Aix la Chapelle.....	\$2,007,730	65	+ \$37,045
Annaberg.....	676,208	64	+ 56,845
Bamberg.....	1,637,973	45	- 303,237
Barmen.....	5,895,880	75	+ 449,245
Berlin *.....	14,153,006	66	+2,000,798
Bremen *.....	2,433,879	74	+ 375,195
Breslau.....	1,789,357	43	+ 34,239
Brunswick.....	3,504,676	10	+ 820,224
Chemnitz.....	10,711,915	65	+2,988,190
Coburg *.....	5,108,965	39	+ 671,674
Cologne.....	5,037,844	49	- 657,095
Orefeld.....	2,870,834	54	+ 615,770
Dresden.....	3,475,780	50	+ 696,470
Düsseldorf.....	3,755,800	25	+ 708,858
Eisenstock.....	1,776,958	08	- 249,650
Frankfort *.....	8,861,615	22	+1,448,407
Freiburg.....	1,345,417	25	+ 49,313
Glauchau.....	968,294	59	+ 158,164
Hamburg *.....	17,959,378	60	+ 506,922
Hanover.....	2,239,942	62	- 286,700
Kehl.....	1,500,594	45	+ 471,451
Leipzig *.....	11,438,830	30	- 220,420
Magdeburg.....	11,614,644	72	-1,915,673
Mayence.....	2,779,332	45	- 90,137
Mannheim *.....	5,697,202	21	- 125,523
Munich.....	1,340,922	23	+ 101,305
Nuremberg.....	6,061,457	74	+1,149,957
Plauen *.....	6,275,336	67	- 918,360
Stettin *.....	4,708,540	67	-3,303,953
Stuttgart.....	2,496,106	69	+ 442,808
Weimar.....	1,789,428	77	- 393,751
Zittau.....	1,510,264	70	+ 35,106
Total.....	163,143,002	159,458,798	+6,315,790

* Including agencies.

The following is a retrospect for the past four calendar years:

Year.	Total export.	Increase over previ- ous year.	
		Amount.	Per cent.
1907.....	\$159,458,798	\$6,315,796	4.1
1908.....	153,143,002	27,009,803	21.4
1905.....	126,133,199	14,892,974	13.4
1904.....	111,240,225		

MARKET FOR LOCKS.

MODERN DOOR FASTENINGS WOULD PROBABLY SELL READILY.

Consul Will L. Lowrie, of Weimar, in reporting that Germany seems to offer an excellent field for modern locks of the American kind, adds:

The locks in use here are mostly of the double-turn variety, two revolutions of the key being necessary to send the bolt home. The keys are heavy and unwieldly. This applies especially to the house-door key, which is considerably heavier than the others. A large percentage of the people live in flats. The outside door is locked at a certain hour in the evening and the house key must be carried if one remains out after hours. If some firm could demonstrate the advantages of the American spring lock, with its small flat key, it is reasonably certain that an excellent market could be made. A list of the most important hardware dealers and building contractors in the district is forwarded [and is obtainable from the Bureau of Manufactures].

UNITED KINGDOM.

LARGE DECREASES IN IMPORTS, EXPORTS, AND REEXPORTS.

Consul-General Robert J. Wynne, of London, reports as follows concerning the foreign trade of the United Kingdom during the first three months of 1908, as compared with the same months of 1907:

The following statement shows the value of the imports, exports, and reexports into and from the United Kingdom for the first quarter of 1908 and its decrease from last year:

Description.	1908.	Decrease.
Imports.....	\$253,618,908	\$27,378,284
Exports of British products.....	160,075,848	8,903,797
Exports of foreign goods (reexports).....	29,029,913	10,438,067
Total.....	442,724,664	46,720,748

The decline in the imports of raw materials in 1908 was \$34,207,553, whereof cotton contributed to the value of \$16,564,193, the low prices of the product being responsible for a large portion of this decrease. The imports of partly manufactured articles—copper, lead, tin, etc.—show a decrease of \$2,917,199. Wheat imports were greater from the United States, Canada, Argentina, and Chile, and less from all other countries. Wheat flour imports were larger from the United States, Germany, and Canada, and less from other countries. The imports

of Indian corn were but a little more than one-half the imports in the 1907 quarter.

In the exports of British manufactures during the 1908 quarter the principal decreases were as follows: Cotton fabrics, \$3,386,982; woolen goods, \$1,126,166; other textiles, \$1,927,976; iron and steel, \$3,815,998; other metals, \$1,476,292; total decrease in these five articles, \$11,733,414. Smaller quantities of cotton piece goods were exported to all oriental countries in the 1908 quarter, with the exception of Japan, whose requirements were larger. The principal increases in the exports of British manufactures during the 1908 quarter were as follows: Machinery, \$1,200,176; new ships, \$2,015,509.

FRANCE.

STATISTICS OF THE TRADE IN TOBACCO AND MATCHES.

Consul-General Robert P. Skinner, of Marseille, has prepared the following summary of the tobacco trade of France and the operations of the Government monopolies in tobacco and matches:

The importations of leaf tobacco into France have been as follows during the last three years, in tons:

Origin.	General commerce.			Special commerce.*		
	1907.	1906.	1905.	1907.	1906.	1905.
United States.....	15,886	15,530	18,116	12,922	14,827	19,007
Algeria.....	4,729	3,627	1,864	3,930	3,408	1,701
Other.....	17,444	12,076	14,411	11,518	6,634	9,606
Total.....	38,059	31,233	34,391	28,370	24,864	30,314

* Special commerce relates to quantities entered for domestic consumption.

The annual report of the director-general of the state tobacco monopoly has just been made public, and covers the transactions of the year 1906. He states that during that year purchases for the account of the monopoly were made as follows:

Variety of tobacco.	Quantities.	Average price per 220 pounds.	Variety of tobacco.	Quantities.	Average price per 220 pounds.
	<i>Tons.</i>			<i>Tons.</i>	
Leaf tobacco from Kentucky, Maryland, Ohio, and Virginia.....	12,701	\$18.18	Cigars made abroad, 16,506,986 at 250 per kilo (2.2 pounds).....	66	* \$44.39
Leaf tobacco from Habana, Sumatra, Java, Brazil, Levant, Santo Domingo, Manila, and Samsun.....	3,509	41.67	Cigarettes made abroad, rate of 1,000 per kilo.....	68	* 3.83
Leaf tobacco from various other sources, Hungary, Ukrania, Astrakhan, Java for scaferlati, Paraguay, Alsace, and Bispat.....	4,278	14.89	Foreign-made scaferlati (English, American, Ottoman).....	4	* 1.49
			Total.....	20,626	

* Per 1,000.

* Per kilo.

In 1906 the receipts of every nature amounted to \$88,687,216, an increase of \$1,433,030 over the preceding year. The net expenses in 1906 were \$15,931,141, or \$225,928 in excess of the corresponding expenses for the preceding year. The sales of manufactured tobacco to the public during 1905 and 1906 were as follows:

Variety.	Sales in 1906.		Sales in 1905.	
	<i>Tons.</i>	<i>Per cent.</i>	<i>Tons.</i>	<i>Per cent.</i>
Cigars.....	2,487	6.82	2,584	6.50
Cigarettes.....	2,521	6.40	2,258	5.75
Scarfati.....	28,388	72.07	28,497	72.62
Rolls and carrots.....	1,162	2.95	1,184	3.02
Powder.....	4,830	12.26	4,715	12.02
Total.....	39,388	100.00	39,238	100.00

The production of domestic tobacco was authorized in 26 departments, with the following results as compared with the preceding year :

	1906.	1905.
Planters.....	54,470	53,750
Land cultivated (acres).....	37,927	39,439
Crop:		
Tons.....	16,189	28,006
Pounds.....	35,690,155	61,614,900
Value of crop.....	\$2,906,827	\$4,949,381
Culture trial expenses.....	\$167.85	\$242.37
Price per 220 pounds (average).....	\$17.95	\$17.76
Yield in pounds per hectare (2.417 acres).....	2,823	3,858
Value of yield per hectare (2.417 acres).....	\$189.88	\$310.00

THE MATCH MONOPOLY.

In 1906 the total receipts of the French Government from the sale of matches amounted to \$7,297,513, or \$359,278 in excess of receipts for 1905. The expenses during 1906 amounted to \$2,009,838, or \$197,771 in excess of expenses during the preceding year.

Three classes of matches were delivered to the public: (1) Ordinary wooden sulphur matches which ignite by friction upon any surface; (2) wooden safety matches which ignite by friction upon a special surface: (3) wax matches. The average consumption of matches per capita in France was 1,058 in 1906, representing an expenditure of \$0.218, of which amount 18 cents returned to the treasury.

BELGIUM.

DECLINE DURING THE FIRST THREE MONTHS OF THIS YEAR.

Consul-General Ethelbert Watts, of Brussels, advises that the comparative statement of special commerce (excluding reexport trade) for the first three months of 1907 and 1908, shows a decrease for this year. He summarizes the statistics as follows:

Importations for the first three months of 1908 amounted to 744,993,000 francs (\$143,783,649), against 844,209,000 francs (\$162,932,337) for the corresponding period of 1907, a decrease of 99,216,000 francs (\$19,148,688).

Exportations for the same period in 1908 were 601,925,000 francs (\$116,171,525) and 609,514,000 francs (\$117,636,202) for 1907, a decrease of 7,589,000 francs (\$1,464,677).

The tonnage arrivals in 1908 were 3,142,904 tons, against 3,246,622 tons in 1907, a decrease of 103,718 tons. The departures in 1908 were 3,129,904 tons, against 3,333,858 tons in 1907, a decrease of 203,954 tons.

SWITZERLAND.

STATISTICS OF LAST YEAR'S PURCHASES FROM FOREIGN COUNTRIES.

Consul A. Lieberknecht, of Zurich, reports that in 1907 the total Swiss imports in round figures amounted to \$310,577,000. Among the leading articles he names the following:

Articles.	Value.	Articles.	Value.
Animals (43,763 oxen, 90,235 hogs, 115,240 sheep, and 14,807 horses; of the latter 4,578 were for slaughtering purposes)-----	\$10,796,000	Fruit and vegetables-----	\$5,500,000
Books-----	3,461,000	Grease and fats for technical purposes-----	4,807,700
Butter-----	1,826,000	Hides and skins-----	7,596,000
Cereals-----	32,692,000	Instruments-----	2,692,000
Chemicals-----	6,154,000	Iron, iron ware, and machinery-----	28,654,000
Coffee-----	2,673,000	Lard and other edible fats-----	923,000
Coffee surrogates-----	269,230	Poultry-----	1,788,000
Copper and copper ware-----	5,769,000	Seed and plants-----	4,980,700
Coal-----	16,731,000	Sugar-----	5,576,000
Cotton, raw-----	9,077,000	Silk, raw-----	23,673,000
Eggs-----	2,942,000	Textile wearing apparel-----	9,577,000
Fish-----	442,300	Wine, in barrels-----	8,346,000
		Wool, raw-----	4,000,000
		Wool manufactures-----	10,846,000

With the exception of wool manufactures all the articles show an increase over 1906. That the chocolate industry did not suffer any in 1907 is plainly shown by the heavy increase in the import of cacao beans. In 1907 their weight was 7,100,000 kilos (kilo=2.2 pounds), while in 1906 it was only 5,500,000.

RUSSIA.

DECREASED EXPORTS AND INCREASED IMPORTS LAST YEAR.

The statistics of the foreign trade of Russia for 1907 have not been issued in a completed form, but the British consul at St. Petersburg has sent a report to his Government, based on preliminary and partial figures, sufficiently approximate to furnish a very good idea of the state of business last year. The following is an abstract of the report:

Generally speaking, conditions were more favorable than in 1906, particularly as regards agriculture. The harvests were better, but local resources had been so thoroughly exhausted by the previous famine that the population was not able to benefit as much as it otherwise would by the larger supplies. In the industrial branches there was fair activity, chiefly in the textile sections, the most depressed trade being the metallurgical. The naphtha industry showed signs of improvement and the sugar industry was also very prosperous. The exports and imports for the year, as far as the statistics go, were as follows:

	Exports.		Imports.	
	1907.	1906.	1907.	1906.
European-----	\$500,602,255	\$513,220,000	\$339,204,783	\$317,558,000
Asiatic-----	38,274,000	49,258,000	43,845,000	40,838,000
Total-----	538,876,255	562,478,000	382,549,783	357,896,000

The exports across the European frontier declined 2½ per cent and over the Asiatic border as much as 25¼ per cent, but imports from Europe went up 6¼ per cent and from Asia 7½ per cent. The de-

crease in exports occurred in food products and manufactured articles, and it was also in these branches that an increase took place in imports. On the other hand, both the export and import of raw and half manufactured materials shows a substantial increase. In animals there was a decline both in exports and imports. These figures seem to argue a considerable increase in home consumption, but evidently the full effects of the better conditions had not time to reflect themselves in the year's foreign commerce.

TURKEY.

MARKET FOR AMERICAN SOAPS.

OPPORTUNITY TO SELL GOOD ARTICLES FOR LAUNDRIES.

Consul-General Edward H. Ozmun, of Constantinople, furnishes the following information concerning the soap trade of Turkey and the opportunity which exists for certain American soaps in that market:

The quantities and value of soap imported into Turkey during the year ended March 13, 1906, the latest official statistics obtainable, and the countries whence imported, are shown in the following statement:

Whence imported.	Ordinary.		Tollet.	Whence imported.	Ordinary.		Tollet.
	Pounds.	Value.	Value.		Pounds.	Value.	Value.
Greece.....	2,866,202	\$148,386		Tunis.....	238,077	\$10.144	
France.....	1,252,601	51,455	\$9,780	Germany.....			\$5,686
England.....	514,113	32,626	19,393	All other countries.....		562	1,420
Austria.....	75,201	3,800	13,180				
Egypt.....	236,944	12,906		Total.....	5,365,763	269,371	51,130
Italy.....	182,622	9,492	1,671				

The average annual olive oil crop in the Levant, including Greece, is nearly 100,000 tons, of which two-thirds is produced in Turkey. It is estimated that about 25 per cent of the product of Turkish oil is used in soap making. Native soap, as also that imported from Greece, is used by the poorer classes both for laundry and toilet purposes. It is made from different grades of olive oil with the admixture of soda and potash.

FOREIGN SOAPS COMING INTO USE.

All laundry work in Turkey is done by the washerwoman, and in the most primitive manner. Hot water is always used, and from the moment the soap is put into the tub it never leaves it, always remaining in the hot water, and never melting. It is difficult to get people in this country to change from what they have been accustomed to, although within recent years certain foreign soaps have gradually come into use. Native soap is made up in rectangular blocks weighing about 1½ pounds each.

There is imported into Constantinople from Marseille 25 or 30 tons of white soap annually, made up in bars of 100, 150, 250, 500, and 1,000 grams (1,000 grams=2.2 pounds) and packed in cases. The qualities imported contain 50 to 70 per cent of fat, and the price

varies from 40 to 70 francs per 100 kilos (\$7.72 to \$13.51 per 220 pounds) free on board ship at Marseille.

One brand of laundry soap has, by judicious advertising, taken a firm hold on the market. It can be used with cold water, and is beginning to be adopted where native soap held full sway. It is comparatively cheap, saves time, and is even used by some of the poorer classes for toilet purposes. This soap is made up in bars of two cakes joined, three bars in one box containing advertising matter in French and Turkish. One case is made up of 48 boxes and, notwithstanding local imitations, besides the competition of other soaps made up in a similar manner, its sales were not less than 7,000 cases during last year. It is retailed at 18 cents per box of three bars.

There are still possibilities for a good laundry soap of similar quality in the hands of a pushing agent, but a little money would have to be spent in newspaper advertising and putting printed posters around the town.

SOFT AND TOILET SOAPS.

It is estimated that the annual imports of soft soap reach 1,800 barrels, containing about 450 pounds each, besides a considerable quantity in tins and drums containing from 1 pound to 112 pounds each. This is imported principally from England, although France has a considerable share in the trade. That coming from Marseille is very dark in color, and is quoted at 36 francs per 100 kilos (\$6.95 per 220 pounds). The English is much lighter in color, and the two first qualities cost about 12s. 6d. and 11s. 6d. per hundredweight (\$3.04 and \$2.80 per 112 pounds) c. i. f. Constantinople.

Most of the higher-priced toilet soaps are imported from France. England has a good share with one popular make, and cheaper articles come from Austria and Germany. Our share is insignificant.

There is a large business to be done in cheap toilet soap. One firm alone is selling 500 dozens of toilet soap per month, put up in fancy boxes, containing 6 cakes each, which are sold for 20 cents. This line, however, is generally made up in boxes containing 3 cakes, and is retailed at about 12 cents per box. Correspondence is invited with American manufacturers, who will be put in touch with pushing agents for any of these particular lines. [Samples of the various soaps, which accompanied the consul-general's report, may be inspected in the Bureau of Manufactures.]

PHOTOGRAPHY IN CONSTANTINOPLE.

FRENCH INVESTIGATION OF THE TRADE IN TURKISH CAPITAL.

The bulletin of the French Chamber of Commerce in Constantinople contains the following report on the trade in photographic apparatus and supplies in Constantinople, reproduced in the *Moniteur Officiel du Commerce* and translated by the Bureau of Manufactures:

The natural conditions in this country are very favorable for photography. The light is magnificent and the sky splendid. In Egypt special precautions must be taken on account of the excessive heat, which sometimes causes the gelatin to melt; in Turkey there is nothing to fear on that score.

The number of photographers has increased enormously. Thirty years ago there were only three or four at Pera; at present they are too numerous to count and are found everywhere—at Pera, Galata, Stamboul, and the suburbs. There is naturally very keen competition among them, and as a consequence they are compelled to give preference to the apparatus and supplies sold at the lowest prices.

The number of amateurs, which was negligible in the past, has increased considerably during the last eight or ten years. Almost everybody is taking pictures. The Mohammedans, who were greatly opposed to this diversion up to a few years ago, have now taken it up seriously, and some photographers of real merit are found among them. And finally the tourists who come to Turkey are all equipped with photographic apparatus.

During the last year, however, the trade in photographic supplies has been perceptibly slow. Is it due to competition and the increased number of dealers? Persons familiar with the situation are inclined to attribute this falling off in the trade to the increased cost of living. Photography involves considerable expense for amateurs, who are therefore not apt to indulge too freely in that pastime. Besides, the number of serious amateurs at Constantinople is rather small. Many of them have their films developed by professional photographers, as is evident from the large sale of photographic paper in large sheets, which are bought only by professional photographers, who effect a saving in cutting them into small sizes.

Still, in spite of all these drawbacks, the sale of photographic apparatus and supplies in this city is of considerable importance. It is not believed, however, that it is ever going to attain a very large sum, in view of the fact that the articles involved are of comparatively small value.

GERMANS PROFIT BY ADVERTISING.

Apparatus.—The apparatus used by the professional photographers are equipped with German lenses. The Germans advertise enormously, advertisements of their apparatus being found in almost every paper. This is one of the causes of their success.

Amateurs use hand cameras or kodaks, which up to a short time ago were intended only for films, but which are now made both for films and plates. But, as said above, the number of amateurs is rather limited. The majority of them are in search of cheap apparatus, and as a result the German cameras so well advertised are in greatest demand. German manufacturers produce apparatus at prices which defy competition, as low as 6 francs (\$1.16) each.

Films.—Films come in rolls of a dozen exposures each; double rolls, or those of six exposures, are not in demand. The objection the dealers have to the films is that they are dated, the date indicating the period for which they are guaranteed by the manufacturer. This makes it impossible for the dealers to sell films whose guaranty period is near expiration, and consequently the retailers can not carry large stocks. In view of the large number of kodaks in use and the time required for a voyage from Paris to Constantinople, it is evident that the dealers would run a considerable risk in carrying a complete assortment of films.

Plates.—These are furnished almost entirely by France. They come in boxes of 12, and 6 for the larger sizes. The sale of French plates could be greatly increased by reducing the price and affording greater facilities to the dealers.

Some German manufacturers have introduced a plate bearing an American flag and sold as of American origin. These plates are bought to some extent by the professional photographers on account of their low price. Other German plates, sold as such, also find some buyers.

Sensitized paper.—This article is also imported almost entirely from France, being furnished by the same houses that furnish the plates. Paper is sold in packages of 6 and 12 sheets, and is divided between nitrate and bromide papers. The former has the larger sale, but the latter is coming more into fashion.

FRANCE AND GERMANY FURNISH SUPPLIES.

Accessories.—The numerous accessories, such as lamps, trays, printing frames, drying racks, etc., come from Paris and Germany.

Chemicals.—The most used are hyposulphite of sodium, bromide of potassium, carbonates of sodium and potassium, some acids, etc. While in the case of most chemicals it is impossible to compete with the low prices of the German chemicals, some chemicals are imported from Paris and Lyons. Developing

and fixing solutions, which are so important in photography, are mostly prepared here from imported chemicals, but some of them are imported from Europe, amateurs having more confidence in European brands. These come from Paris and Germany. Chloride of gold comes from Paris; the importation of magnesium is prohibited.

Cardboard.—Photographers' cardboard, passe partout, and other cardboard products are imported largely from Vienna, where the conditions for their manufacture are most favorable, and to some extent from Berlin.

Dealers.—There are four large houses dealing in photographic apparatus and supplies in Constantinople (three at Pera and one at Stamboul), one of them being a French house. Some small merchants also carry photographic supplies.

Packing.—In the case of articles of so delicate a nature, where packages can not be opened to ascertain partial damage, careful packing is very essential. Firms shipping in large and heavy boxes seem to invite disaster, as the porters here are very rough in their handling of boxes, especially if they are very heavy, even when they bear the inscription "fragile." On this account small, light, and well-packed cases are necessary.

Terms.—No firm charges for packing. The Germans sell f. o. b. Constantinople, on six months' credit. They also extend other facilities to their customers. These are the best means to keep customers, and French firms are urged to extend the same facilities. To resume, it may be said that France occupies a good position in this trade in Constantinople, but its sales could be greatly enlarged.

[Names of dealers in photographic supplies at both Constantinople and Smyrna may be secured from the Bureau of Manufactures.]

EGG TRADE AT SMYRNA.

EXPORTATIONS FROM TURKEY IN ASIA INCREASING.

Consul Ernest L. Harris states that within recent years an entirely new industry has sprung up at Smyrna in the exportation of eggs, and it is rapidly becoming a source of considerable profit to the villagers and farmers in that part of Turkey. He gives the following trade particulars:

The success achieved along this line, however, is but nominal, compared to what the results would be if a system of poultry raising were introduced all over the country. There are few farmers in this part of Asia Minor who raise poultry as a source of income, as far as the production of eggs is concerned.

There are some ten firms interested in the egg trade at Smyrna, but the bulk of the business, comparatively speaking, is in the hands of one of these firms. This firm has a number of active agents whose business it is to visit the villages in the interior of the country and buy up all the eggs possible for shipment to Smyrna. A part of these eggs are consumed in Smyrna, while a part are shipped to Europe in cases packed by experts. In 1907 this firm shipped 7,112 cases, each containing 1,440 eggs.

The total export of eggs from Smyrna during 1907 amounted to 24,322,372, valued at \$264,573. France took \$102,300 worth, Greece \$63,228, Austria-Hungary \$48,312, Italy \$32,697, and Germany \$4,295. The total number exported during 1900, 1901, and 1902 combined only amounted to 1,132,125 eggs.

The great demand for eggs abroad naturally creates a scarcity and fluctuation in prices at home. During that part of the season when there is the greatest foreign demand the price of eggs rises to 2 cents each, when they can ordinarily be bought for 1 cent each, or even less.

CHINA.

TSINANFU TRADE OUTLOOK.

GENERAL BUSINESS CONDITIONS NOT FAVORABLE AT PRESENT.

Consular Agent William B. Hamilton, in furnishing the following information through Consul-General John Fowler, of Chefoo, relative to conditions at Tsinanfu, the capital of the province of Shantung, reports that the very poor autumn crops have had a depressing effect on trade, the sales of foreign goods, except necessities like oil and cloth, being reduced about one-half this season:

Foreign merchants hope to do an export business in sheep and goat skins, hides, straw braid, and silk. Sheep and goats in considerable numbers are pastured on nonarable land in the hill region, extending 200 miles to the southeast of Tsinanfu and 80 miles south and southwest. Cattle for farming purposes are found 20 or 30 in each village with a population of a hundred families. They are cheaper than for several years back because of the shortage of fodder.

There is room for the indefinite expansion of the straw-braid business, as half the land is sown in wheat every year, and the straw is generally suitable therefor. The people have not yet learned the art of braiding it, though spreading westward from Chefoo it has been taken up, village by village, until people north of Chingchou are acquiring the ability to braid it.

RAW SILK—TRAVEL AND TRAFFIC.

The mulberry grows well in this section, there being extensive orchards 20 miles to the northeast of the city. The main silk business is, however, done at Choutsun. For some time past a school for sericulture has been going on at Chingchou, being at first under Japanese instructors. Another Japanese, trained under American teachers in Japan, was in Government employ here for a couple of years and introduced new silkworms from Japan, and a new sort of mulberry tree from central China. He also constructed an oven for the killing of the cocoon by heat, in accordance with Japanese methods, instead of by scalding.

The Tsinan-Yangchiakou canal has been found too shallow for the steam launches brought here from Chefoo. It is still extremely useful as a waterway for the bringing of salt, grain, lumber, and fuel to the city. Much oil from Chefoo is also brought in that way. It is not, however, in condition to be a formidable competitor to the Tsinan-Tsingtau railway, and the latter maintains its freight rates, while cotton is often wheeled along in barrows, in the old-fashioned style, for considerable distances parallel to the line. Passenger rates have recently been advanced 10 per cent on third-class fares. The road is much patronized by third-class passengers, even the platforms of the cars often being crowded.

FOREIGNERS IN TSINANFU.

Japanese traders are considerably in evidence here. Probably 30 per cent of the goods exposed in foreign stores are of Japanese origin. They are doing a large business in the line of medicines, mostly patent, having many agencies in the city, and they are establishing

branch stores in the various cities and larger market towns in this region. Within the past year or two I have met Japanese selling medicine and soap away out in places where no other trader would think of going. A company here has secured an agency for a large Philadelphia producer of medicines.

As to American merchants, one company is said to be doing some business in cotton, having a small godown in the settlement, with headquarters in the city; another is said to be doing business in hides, skins, etc., and an American sewing machine company has a Chinese agent here. The Germans are, however, introducing a cheaper sewing machine. The Japanese have also brought in machines.

A large tobacco company has sent its agents far and wide throughout this region, and has spent thousands of dollars placarding posters everywhere—covering the entrances to the cities even with a score or more of brilliant posters massed together. They are doing a large business. An American agent, representing a Chinese life insurance company, frequently visits the city.

A German bank has just completed a handsome structure for banking and residential purposes, which, with the new German consulate adjoining it, is a very striking evidence of German activity in this section. The new bank building is evidently in anticipation of the construction of the Tientsin-Chinkiang railway. The main business of the bank is still done in the city. There are four German firms represented here by Germans.

STRAW-BRAID TRADE.

TSINGTAU OUTPUT FOR PAST YEAR—PRESENT SLOW MARKET.

Consul Wilbur T. Gracey transmits the following report regarding the Chinese straw-braid trade for the year 1907 and the months of January and February, 1908, translated from a German newspaper in Tsingtau:

A review of the Shanghai customs daily returns shows that a total of 42,000 packages of braid went to that port from Tsingtau during 1907. To get the total exports some 3,400 more packages should be added for exports by direct steamers. This includes shipments by Chinese. The annual German report concerning the colony shows a small gain in piculs (133½ pounds), the figures being 60,250 against 58,800 in 1906. It is probable that the value in 1907 was below that of 1906, despite the greater weight exported. In 1906 prices were unusually high, and fell during 1907, so that Chinese exported more than usual to Shanghai, trying to find a better market. The result is that European firms did less, native firms more.

It is to be hoped that conditions will better in 1908, but the good times of 1906 are hardly to be expected to return. At that time buyers even worked on Sundays in order to buy what had arrived late on Saturday. With the pressure brought to bear at the request of buyers, full-length braid is beginning to arrive, and so more certainty will be brought into the trade.

The first two months of this year are fairly satisfactory, when it is considered that the season was interrupted by Chinese New Year. Dealers in the interior passed this time better than was expected.

Considerable dealing was done in 7-end split and Laichow mottled, so that prices were stiff. Shansi mottled was quiet, little cargo arriving. Pearls were so scarce that no business was done.

A few orders were booked for white plain braids; the supply is so small, however, that the market was unaffected. Four-straw rustics were lively in December, but very quiet since, with prices unchanged. A few Tuscans went in January, but none in February. Prices of colored plain braids dropped, as the demand was not clearly up to supplies.

STOCKS OF GOODS IN SHANGHAI.

QUANTITIES OF MERCHANDISE ON HAND AT BEGINNING OF THE YEAR.

Consul Gracey also transmits the following article copied from a recent local newspaper in China:

An interesting series of figures has been issued by the Chamber of Commerce of Shanghai, containing the amount of goods stored in the warehouses of firms within the Settlement on December 31, 1907. Notices had been sent to the various hong's requesting this information with a view to compiling statistics of stocks of manufactured goods and metals in port as nearly as could be ascertained, and the results are interesting. A few noteworthy facts can be culled from the columns of figures.

Under the heading of "goods unsold and sold but uncleared" are given the quantities of various materials, of which the most important totals are: Gray shirtings 1,112,914 pieces; white Irishes 215,565; T cloths 146,260; drills 710,334; jeans 180,802; sheetings 6,712,291; printed cottons 705,755; fancy woven cottons 91,125; cotton Italians and lastings 2,017,337; kerosene oil 4,673,825 gallons. Under the heading "sold and paid for and stored by Chinese" are the following figures: Gray shirtings 133,838 pieces; white shirtings 90,828; white Irishes 162,964; drills 25,648; jeans 38,150; sheetings 181,285; printed cotton 18,232; fancy woven cotton, 1,300; kerosene oil 467,200 gallons. Among the details to be noted are that the oil from Borneo exceeds that from America by a large amount, the figures being America, 1,033,505; Borneo, 2,268,635; Sumatra and Langkat, 1,371,405. Of the drills the British figures totalled 66,220 pieces, while the American were 563,185.

JAPAN.

NEW SUGAR TAX RATES.

CONSUMPTION CHARGES BY GOVERNMENT ARE CONSIDERABLY INCREASED.

Consul-General Henry B. Miller sends from Yokohama a published statement that the amendment increasing the Japanese sugar-consumption tax was passed by Parliament and was put in force on February 22. The statement says in part:

The rate on "first quality sugar, under No. 8 in color of Dutch standards, and molasses" is raised from 1 yen to 3 yen per 100 kin (1 yen=49.8 cents; 1 kin or catty=1½ pounds). The rate on "second quality, between Nos. 8 and 15 in color of Dutch standard" increased from 1.6 yen to 5.5 yen per 100 kin. The rate on "third quality, between Nos. 15 and 20 in color of Dutch standard, and syrup" is advanced from 2.2 yen to 8.50 yen per 100 kin. The rate on "fourth quality, exceeding No. 20 in color of Dutch standard, and sugar candy" is increased from 2.8 yen to 10 yen per 100 kin.

The object of the Government in promulgating this law in such haste is to check the heavy importation of sugar in anticipation of the increase of the tax, the amount of sugar landed having recently shown a marked increase. On the other hand, seeing the possibility of the bill passing through the House of Peers, the sugar refineries have shown great activity of late. For instance, the Tokyo, Osaka, and Moji factories of the Japan Sugar Refining Company

have been working day and night of late, and just before the amendments were promulgated the company deposited with the Government bonds to the value of 2,000,000 yen for the purpose of carrying out the examination of sugar in stock. By this means the sugar will not be subject to the new tax. On the Shanghai market Hongkong sugar has risen in price by 15 tael cents, and the Japan Sugar Refining Company has made a contract for the sale of about 600,000 bags for China, which it is estimated will bring in a profit of about 1,000,000 yen. The company intends to try and capture the market in China.

It is said that the company's factories will be closed down for a month or two, in consequence of the large stocks now held by virtue of the night-and-day work, to avoid the new taxation.

REGISTRATION OF TRADE-MARKS.

PRECAUTIONS NECESSARY TO GUARD AGAINST INFRINGEMENT.

The Board of Trade Journal of London prints the following concerning trade-marks in Japan:

The board of trade desire to remind owners of marks used in the Far East of the risks they run by failing to register their marks in Japan, and of the necessity of taking all practicable steps to protect their interests after registration. They also desire to direct the attention of all firms whose products, bearing marks duly registered, are on sale in Japan, to the precaution—as one means of securing their marks against infringement—of adding on their labels in Japanese characters the words “Registered trade-mark.” This precaution has been suggested by His Majesty's embassy at Tokyo with a view to preventing infringers of marks from setting up as a defense that they were ignorant of the fact that the trade-mark in question was a registered one, which is understood to be a valid defense in a criminal action in Japan.

SIAM.

PEPPER CROPS, EXPORTS, AND MARKET QUOTATIONS AT BANGKOK.

Consul-General John Van A. MacMurray, of Bangkok, finds that, according to the customs-house figures, the total quantities and values of pepper of all sorts exported from Siam have been as follows:

Year.	Pounds.	Value in United States currency.
1904.....	3,170,587	\$351,546
1905.....	2,208,997	261,132
1906.....	2,998,091	300,405
1907.....	3,307,784	285,277

In the calendar year 1907 1,633,000 pounds, valued at \$120,919, were shipped to Singapore; 532,000 pounds, worth \$32,605, to Hongkong; 145,000 pounds, worth \$22,089, to England, and 997,000 pounds, worth \$109,663, to Europe.

The following data concerning recent crops of white pepper are from private sources. The prices refer to wholesale quotations per pound in English pence (2 cents), c. i. f., Bangkok to London: In 1902-3, 700 tons, 8½ to 9¼ pence; 1903-4, 1,000 tons, 8½ to 8¾ pence; 1904-5, 700 tons, 6¼ to 7¾ pence; 1905-6, 1,050 tons, 5¾ to 6¼ pence; 1906-7, 1,000 tons already marketed, and 100 tons estimated as still to come in, price 5 pence and a trifle under; while for the 1907-8 crop 900 tons is estimated as the probable yield, with the price probably below 5 pence.

STRAITS SETTLEMENTS.

DECREASES SHOWN IN BOTH THE IMPORTS AND EXPORTS.

Consul-General, Thornwell Haynes, sends from Singapore the following statistics, showing the Straits Settlements' value of imports and exports for the quarter ended December 31, 1907:

The foreign trade of Singapore amounted to \$31,545,000; Penang, \$11,527,000; Malacca, \$6,877,000. The total value of imports for the December quarter of 1906 was \$46,310,000, showing a decrease in the last quarter of 1907 of \$3,639,000.

The exports for the last quarter of 1907 were: Singapore, \$25,267,000; Penang, \$11,032,000; Malacca, \$515,180. The total figures in the same quarter in 1906 were \$43,432,000. The value of exports for the December quarter, 1907, shows a decrease of \$618,000.

BRITISH INDIA.

VALUE OF CALCUTTA'S FOREIGN TRADE LAST YEAR.

Consul-General William H. Michael, of Calcutta, advises that the value for nine months, April 1 to December 31, 1907, of the seaborne import trade of British India, including Government treasure and stores, amounted to \$444,225,020, of which private merchandise represented \$314,246,705. The total export trade for the same period including government treasure and stores, amounted to \$466,073,116, of which foreign merchandise reexported, represented \$9,560,052, and Indian merchandise, \$441,783,265. The gross amount of import duty collected, including salt, amounted to \$17,948,939, and export duty, \$1,873,109.

MOROCCO.

VAST TRADE POSSIBILITIES WHEN THE COUNTRY IS DEVELOPED.

George E. Holt, vice-consul at Tangier, Morocco, sends the following account of trade conditions in that country, with its \$25,000,000 of imports, and what may be expected when real development begins:

It seems strange that in their keen search for foreign fields for their products American manufacturers and exporters have thus far almost completely overlooked Morocco, which is near enough to Europe to be a part of it, and yet which is as far away from European control as though it were at the antipodes. While Sultans have come and gone, England has been shipping millions of pounds' worth of cotton and candles and other things for the people of Morocco to consume; France has been sending sugar and silk and many other commodities, cash against bill of lading; while Germany has found a market worth going after. Morocco is well worth the attention of American exporters. It has a choice climate, fine scenery, great wealth of earth and sea and sky, vast supplies of precious metals, and the soil has never been more than scratched by the crude wooden plows of the people—a soil that will give three crops a year. There are warm winds and sunshine for three hundred of the three hundred and sixty-five days in the year; 300,000 square miles of fertile farm

land or grazing land, broken by majestic mountains or swept by foothills, crossed by rivers, and bounded by the sea on two sides. There are vast forests and valuable shrubs, and the sea is generously supplied with millions of fish.

THE IMPORT TRADE—LACK OF TRANSPORTATION FACILITIES.

The import trade of Morocco touches the \$25,000,000 mark. Of this amount, the bulk goes into the coffers of the merchants of England, France, and Germany, with the first two at present struggling for supremacy. Despite the many centuries of life, Morocco has not been developed—it is almost virgin territory. Its forests and mines are intact. No railroads, no electric transportation lines, no telephones, no telegraph to speak of, electric lights of more or less uncertain existence in one town; the coast known, the interior a wilderness where even the Sultan dare not go. And eight to ten millions of people living in primitive style. Why? Principally because their opinions differ from those of Europe.

While the interior of Morocco is as I have represented it, the coast is more or less accustomed to European methods—the people eat French sugar, drink English tea, and wear Manchester cottons. Some of them tell the time of day by the dollar watch. In the eight port towns and vicinity there are quite enough people to satisfy ordinary demands as regards the opening of trade with America. The interior may be kept as a reserve, to fall back upon when the 2,000,000 people on the coast have stocked up with sewing machines, phonographs, clocks, cameras, etc. The commodities of everyday life form a group of imports which represents fortunes in profits. Cotton goods from England alone amount to \$4,000,000 a year. Sugar is imported to almost the same figure annually. Candles reach nearly half a million dollars a year, and tea three-quarters of a million dollars.

A hindrance of great importance to the development of internal commerce is the entire lack of any practicable means of transportation and communication. When it is noted that in a country covering more than 300,000 square miles there is not a single railroad or other means of mechanical transportation, the fact that internal commerce is restricted does not seem strange. Morocco, exposed on the north to the Straits of Gibraltar and the Mediterranean and on the west to the Atlantic, offers every inducement to the development of commerce; but up to the present time the policy of discouragement of foreign enterprise has kept out would-be developers—a policy which has been greatly assisted by the disturbed political conditions and lack of law.

But foreign capital has managed to secure a foothold along the coast of the country. Tangier is the northern commercial center. The west coast has many, such as Laraiche, Rabat, Casablanca, Mogador, Mazagan, and Saffi, all of which have a more or less flourishing import and export trade, fed by the coastal and interior area within a radius of perhaps 30 or 40 miles. Outside of these pocket-like areas the country is self-supporting, although, necessarily, small quantities of tea, candles, sugar, and cloth seep inland. Fez and Marrákes (Morocco), the northern and southern capital cities, attract some little import trade, which, however, goes direct from the nearest port, and has no developing influence upon the 150 or 200 miles of intervening territory.

There are in Morocco no roads which could properly be called such, and not more than a dozen bridges—and those only over small streams where the most simple forms of construction could be employed. Rivers must be forded, and when the water is high, as is often the case, there is nothing to do but wait till it subsides. Aside from the occasional fandak (inclosures where animals may be stabled) there is no facility for "putting up" except in the open air. The traveler in Morocco must carry all things with him and prepare to sleep where he may.

METHODS OF TRANSPORTATION.

There are six methods of transportation in general use in Morocco; or, perhaps, it would be better to say that there is but one method, with six variations. In order of their importance they are: Mule, horse, donkey, camel, woman, man. Of these the mule, horse, and camel may be classified as animals which, generally speaking, are used to transport heavy loads over long distances, while the others are for loads of less weight to be carried over less distance. The mule can carry all that can be piled upon it, say 600 pounds, for an unlimited distance, as can also the camel. The horse receives more consideration, travels long distances, but is never burdened so heavily. A donkey can carry several hundred pounds almost any distance, but is generally used for short journeys. Woman is preferred for the carrying of loads of 50 to 100 pounds of firewood, fodder, charcoal, farm produce, etc., from the country to the towns, her journey varying in length from 2 to 15 miles each way. Man is used principally as a courier for the carrying of messages over long distances, although in the cities there are many Soudanese or low-caste Moors who, two to ten together, transport heavy objects, such as tombstones, building materials, etc.

Vehicles are practically unknown. Tangier alone of the Moroccan cities has a number of wheeled vehicles, perhaps a dozen, most of which are heavy carts imported by the foreign sanitary commission for use in keeping clean the streets. Owing to the absence of roads vehicles would be useless, but roads will come hand in hand with the railroads.

LONG CREDITS IN TRADE.

In consideration of the possibilities of American exporters finding in Morocco a field for their goods the factor of greatest importance is that of credits. Quality and price have their influence, but conditions are such that long credits overcome any small difference in the other two items. England and France now control the bulk of Moroccan trade, while Germany, through its long-credit system, is rapidly gaining ground. An idea of the credit system in vogue between Morocco and the nations to-day may be gained from the appended data:

Cottons.—Supplied almost entirely by England to the extent of about \$2,000,000 a year, on the basis of current accounts—that is, accounts which are opened with a deposit by the purchaser, almost unlimited credit offered, and accounts balanced, as a rule, once a year.

Silk.—Raw silk comes from France, shipped cash against bill of lading. Manufactured silk is also French, ninety days' to four months' credit.

Other fabrics.—England, current accounts or four months' credit. Germany, six months' credit with additional six months at 6 per

cent. France, ninety days' credit or discount for cash against bill of lading.

Sugar.—France, discount for cash against bill of lading. Austria, sixty days' sight. Germany, sixty days' to four months' credit. Belgium, sixty days' to four months' credit.

Candles.—England has a complete monopoly of the immense trade. Current accounts or three months' credit.

Builders' hardware.—Ninety days' credit allowed by England, Belgium, France, and Germany.

Flour.—Italy supplies great quantities on credits of sixty to ninety days. France offers discount for cash against bill of lading.

Building material.—Bricks from Spain and France on basis of cash to ninety days. Roofing tiles from France with credit of ninety days. Iron beams, Belgium, with ninety days' to four months' credit. Plaster and cement, ninety days' credit from France, Belgium, and Spain.

China ware and glassware.—Three to four months' credit by Belgium, Austria, Italy, and France.

General hardware.—Cash to current accounts.

A summary, then, of the terms demanded by the various European nations in dealing with Morocco is as follows: England, medium credits or current accounts; Germany, long credits, drawing interest after maturity; France, cash against bill of lading, or short credits; Belgium, long credits; Austria, long credits; Italy, medium credits.

It may be explained that France, although offering less attractive terms than most countries, gains business through liberal cash discounts, but principally through its intimate political relations with the country.

FUTURE POSSIBILITIES.

It is probable that no other country has the field for future development which Morocco has, one reason being its present primitive state, which allows development in every imaginable direction, and another being its vast natural resources, which make such development profitable and possible. Once the real development of the country really begins, once the "open door" is established (civilization is now only in the anteroom), the wealth of the country will surprise America. Mines of lead, zinc, tin, antimony, silver, and gold will be opened. Extensive irrigation systems, through a tapping of the four large rivers and the sinking of artesian wells, will treble the area of land fit for agricultural purposes, and the introduction of modern farm machinery (there is said to be only one metal plow in Morocco) will treble the production per acre. Fruit farms will be operated on a scale equal to the vast farms of California, conditions for fruit raising being as good or better than those of the extreme western State. It has already been demonstrated that silk culture is especially adapted to becoming a cottage industry in Morocco, the quality thus produced being equal to the best Italian. Cotton has been raised here, and the best botanical authorities unite in praise of the natural conditions for such an industry. Railroads, supplanting mule and camel, would unite the country, making possible the sale along the coast of fruit and grain raised in the interior, a thing now almost unheard of. Building is now confined to the thin fringe along the coast, because of the impossibility of transporting building materials

inland. Fisheries would be conducted on a large scale, one at Tangier already having demonstrated its practicability. Manufactories, even, would soon be necessary to supply the demands of the people awakened.

And with all these things would come a vastly enhanced demand for foreign goods—why not American?

AUSTRALIA.

IMPORTS OF METAL GOODS FROM ENGLAND RAPIDLY INCREASING.

Consul-General John P. Bray, of Melbourne, reports that large increases have been made during the past two years in the Australian imports of metal goods and machinery from England, the data being as follows:

The total value of metal goods and hardware (not including machinery) under twenty-nine principal headings, imported from England, rose from \$13,047,786 in 1905 to \$17,083,545 in 1906 and \$22,769,141 in 1907. The increase in two years was thus nearly \$10,000,000, or nearly 75 per cent. Among the principal lines are iron bars, rods, angles, etc., which amounted to \$1,330,821 in 1907 against \$951,721 in 1906; rails, \$2,443,576 against \$806,441; galvanized iron, \$5,351,450 against \$4,201,107; tubes, pipes, and fittings, \$1,651,129 against \$1,333,156; steel bars, angles, etc., \$955,064 against \$649,384, and copper goods, \$1,191,533 against \$629,101. Wire manufactures rose from \$1,363,198 in 1905 to \$2,204,465 in 1907. The following are the quantities of some of the leading metal goods imported from England during 1907:

Articles.	Tons.	Articles.	Tons.
Galvanized iron.....	68,152	Tubes and pipes and fittings, cast.....	4,333
Tin plates.....	14,639	Nails, screws, and rivets.....	3,240
Pig iron.....	80,863	Bolts and nuts.....	3,970
Iron bars, angles, etc.....	31,204	Bedsteads.....	1,734
Rails.....	73,688	Steel bars, angles, etc.....	18,000
Wire.....	4,667	Copper manufactures.....	2,158
Wire manufactures.....	20,193	Hardware.....	4,181
Iron plates.....	18,358	Outlery, value.....	\$657,205
Tubes and pipes and fittings, wrought.....	10,000		

Machinery imports from England in 1907 show increases under every heading as compared with the previous year. The aggregate value of machinery rose from \$3,341,732 in 1905 to \$5,547,207 in 1906 and \$6,077,455 in 1907, the value last year being nearly double of that of two years previous. The kinds and values of the machinery imported from England during 1907 were as follows:

Articles.	Value.	Articles.	Value.
Steam engines:		Not steam or electrical—Continued.	
Locomotive.....	\$252,386	Mining.....	\$354,763
Agricultural.....	198,441	Textile.....	149,479
Other.....	1,175,878	Other.....	3,662,622
Not steam or electrical:		Total.....	6,077,455
Agricultural.....	248,090		
Sewing machines.....	35,787		

EXTENSIVE SHIPMENTS OF RAW MATERIAL TO ENGLAND LAST YEAR.

The following gives a list of the principal exports from Australia to England during 1907:

Articles.	Quantity.	Articles.	Quantity.
Wheat.....cwt.	8,324,200	Tallow.....cwt.	627,704
Flour.....do	131,400	Hides, wet.....do	30,117
Frozen mutton and lamb.....do	858,226	Sheepskins.....value	\$3,863,300
Frozen beef.....do	126,030	Copper ore.....tons	7,163
Frozen rabbits.....do	538,366	Lead.....do	50,150
Butter.....do	587,923	Copper.....do	16,800
Cheese.....do	8,515	Tin.....do	5,900
Wine.....galls.	787,853	Leather.....cwt.	72,681
Wool.....lbs.	821,470,000		

Among articles of food, increases are shown in wheat, frozen mutton, lamb and beef, butter and wine, while flour shows a decrease. Pastoral products, including wool, tallow, hides, and sheepskins, show increases. Among metals, copper and tin show increases, but lead a decrease, compared with 1906.

The aggregate value of the articles in the foregoing list, which is not exhaustive, was \$142,958,693 for 1907, against \$119,555,878 for 1906, and \$111,676,695 for 1905. Out of the total, wool amounted to \$70,990,836 last year, against \$56,036,447 for 1906.

COMPARATIVE REVIEW.

PER CAPITA COMPARISON OF FOREIGN TRADE OF LEADING COUNTRIES.

The President of the Board of Trade of the United Kingdom has made the following statement to the British Parliament of the foreign trade of the United Kingdom, the United States, France, and Germany in 1907, and the amount of foreign trade per capita of population (£=\$4.86; shilling = 24 cents; penny = 2 cents):

	United Kingdom.	United States.	France.	Germany.
Net imports.....	£553,932,000	£200,519,000	£241,908,000	£422,701,000
Exports.....	426,205,000	391,859,000	221,681,000	337,722,000
Total.....	127,727,000	61,660,000	120,227,000	85,979,000
Estimated population middle of 1907.....	Number. 44,100,000	Number. 85,817,000	Number. 39,275,000	Number. 62,150,000
Foreign trade per capita:				
Net imports.....	£ 12 s. 11 d.	£ 3 s. 9 d.	£ 6 s. 3 d.	£ 6 s. 16 d.
Exports.....	0 13 3	4 12 0	5 12 11	5 8 8
Total.....	22 4 6	8 1 1	11 16 1	12 4 8

The imports for home consumption are calculated, in the case of the United Kingdom and United States, by deducting the value of the reexports from the gross value of the imports in 1907.

The values of imports and exports stated in the German and French official accounts are for the most part computed on the basis of the ascertained average prices of 1906.

TRADE EXTENSION.

CONSULAR COMMERCIAL WORK.

PANAMA.

THE FILING OF AMERICAN CATALOGUES AND PRICE LISTS AT COLON.

Consul James C. Kellogg writes that, in order to assist in promoting trade at the port of Colon with the United States, he has carried out the following plans:

As far as commerce can be aided through catalogues and price lists, which are, at best, poor substitutes for intelligent and up-to-date traveling salesmen, this office has fitted up a part of the record and file room, the latter measuring 12 by 12 feet, with divided shelves and a four-drawer file cabinet. At the present time there are indexed according to subject and kept on file 25 trade journals, 20 trade indexes, and numerous catalogues and price lists of American goods.

File room, American Consulate, Colon.

The local merchants and importers have been invited through the columns of the press and by personal invitation to visit the file room and examine the journals and catalogues, and to consult with me on subjects relating to American goods which might be of interest to them. The addition and improvement in the file room has found favor with the Colon merchants, which is evidenced by their frequent calls at the office to examine the files.

The new arrangement of the record and file room is shown in the accompanying photograph, which also shows some of the representative importers of Colon examining American catalogues and price lists.

SWEDEN.

SUGGESTIONS TO SAFEGUARD AMERICANS IN TRADE INQUIRIES.

The following suggestions concerning the best means of safeguarding Americans seeking foreign trade through consular inquiry, and from foreign inquirers seeking American trade through the same channel, a system which has grown to unexpected proportions, is furnished by Consul W. Henry Robertson, of Gothenburg, Sweden:

American manufacturers or exporters writing to a consulate regarding the introduction of their goods abroad, and asking that their letters be referred to some one who might act as their foreign agent, or who might purchase from them, should invariably give their exact prices, terms, and conditions as far as possible, and should furnish at the same time banking or commercial references. Otherwise, in this consular district at least, it is practically impossible to induce anyone to take the slightest interest in such inquiries. Many important trade opportunities are lost through inattention by our exporters to these all-important details. Foreign dealers will not take the trouble to enter into correspondence with American firms without at least *prima facie* evidence that good results are likely to ensue.

Where American exporters write to a consulate, looking to an increased sale of their articles abroad, they should invariably advise it as to any agents they may already have in the consular district, or the country itself, so that embarrassing situations may be avoided and the consulate may be assured, before seeking additional agents for such firms, that the ordinary ethics and usages of honorable dealing are not being violated. This consulate, in one instance at least, was allowed to suffer the embarrassment of submitting such a letter of inquiry of an American house to the firm's own agents here, who had happened just before that to have made a very fine sale for it.

FOREIGN IMPORTERS SEEKING INFORMATION THROUGH AMERICAN CONSULS.

Where foreign importers apply to a consulate for the names of American exporters, or where such inquiries are referred by the consulate to the Department of Commerce and Labor, it is thought that it would frequently save not only much useless correspondence, but possibly some unfavorable business connections for American exporters, were such inquirers invariably required by the consulate to first furnish such banking or commercial references as would indicate on the surface that connections with them were justifiable and likely to be profitable to our trade. In other words, without carrying with it any undue responsibility upon the consulate in the matter, the very fact that the latter had furnished a foreign inquirer with the names of American exporters in his line, or that it had referred his request for the same to the Department of Commerce and Labor, should of itself justify a favorable assumption at home with regard to such inquirer as a foreign purchaser or agent. Moreover, such foreign inquirer should understand that his overtures would be given

a much more prompt and satisfactory attention in the United States if as clear a statement as possible of his terms and conditions, and of his ideas of the general possibilities of the foreign market for the goods in question, would accompany his inquiry.

It is assumed that most of our consulates, without taking upon themselves any responsibility for connections that may result, extend a general standing invitation, indirectly through the local press or otherwise, to possible importers of American products within their several districts to file with them their names and the articles in which they are specially interested. It would seem still better if the banking and commercial references of these parties and their general terms and conditions could be filed at the same time, with permission for their full use properly by the consulate. In this way we could not only put our exporters in touch with all the reputable houses in our several districts, but it could be seen that so far as the consulate was concerned they got in touch with no others and were spared no end of useless correspondence and investigation.

It would also be of great advantage in several ways if foreign importers or agents could be induced in all cases to let the consulate know exactly the names of American firms from whom they import, or whom they represent, and the articles that they receive. In all such instances the exporter, the importer, and the consulate can only have a common interest, and this can always be best advanced where there is a mutual understanding of the situation, mutual confidence, and a thorough cooperation in the matter. For example, in the case of newspaper or other attacks upon American products in a foreign country, far better methods for combating and for measuring the effects of these can be adopted through united than through individual effort.

A CENTRAL BUREAU OF COMMERCIAL INFORMATION.

A very serious and practically needless loss of valuable time would be saved our consulates and American trade interests abroad would be far better subserved in every direction, were American exporters repeatedly encouraged, through the medium of the Daily Consular and Trade Reports, to look more and more to the Department of Commerce and Labor, rather than directly to our consulates, for just the advice and information needed for the successful introduction of their goods abroad. In fact, if our consulates are to properly perform the time-consuming duties now expected of them, along with their other work of keeping the Government promptly and accurately posted on all commercial facts and figures of their respective districts and on the opportunities therein for American trade, not only exporters but the American public as a whole must be brought to increasingly regard the Department of Commerce and Labor and its Bureau of Manufactures as a central bureau of information on all commercial matters, foreign and domestic, and our consulates as contributing, but not distributing, sources of such information.

If consular officers are to spend the time necessary for properly procuring the commercial information now exacted of them, they can not possibly have enough left for disseminating this information in answer to the constantly increasing number of repeated inquiries on the same subjects. It is, therefore, strongly suggested that as the Department of Commerce and Labor is put more and more by consular officers in possession of the commercial data and conditions

of their various districts and countries it should constantly make use of the most available means at its disposal to educate our people, whether private parties, firms, corporations, State officials, or others, to allow all their requests for information on commercial or any other subjects on which we are supposed to keep our Government posted to reach us through the Department of Commerce and Labor, and not directly.

UNNECESSARY LABOR TO WHICH CONSULS ARE SUBJECTED.

Whatever criticisms may be made against the consular service of the United States as a whole, I have never heard it charged with a lack of industry or alertness, and the plea herein made is not at all one for lessening work, but against wasted or misdirected effort. It is merely intended that with the same amount of energy in more practical directions much more useful results shall be achieved. As it is now, a formidable and constantly increasing mass of inquiries is received in practically each United States mail, many of them very comprehensive and on subjects on which each consulate has already repeatedly reported to Washington and to various individual Americans interested in the same lines. These inquiries would never have been addressed to the consulates at all, or certainly not in the form in which many of them are made, if the writers themselves had only thought of first consulting the proper Department of the Government at Washington; and if they are to increase as rapidly in the future as they have done in the past, it will be impossible for even a consulate of the grade of Gothenburg to take care of them.

A single instance may be given. My predecessor reported last June upon a miniature telephone, or microphone, invented by a Swede, which was expected to be of great convenience to employees at telephone stations, and also of service to persons with defective hearing. This report gave all the information on the subject available at the time, and carefully stated the name and address of the inventor [which was filed for public reference at the Bureau of Manufactures], so that those interested might apply to him for further details. Instead of thus disposing of the matter, so far as the consulate itself was concerned, it has done just the contrary. The press of the United States evidently made some incomplete reference to the report that was widely copied throughout the world, for the consulate has already been obliged to answer some 47 letters of inquiry on the subject from all parts of the United States, Great Britain, Cuba, Australia, Canada, etc., and they are still coming. It will readily be understood that, with the limited clerical assistance at consulates and with no funds for preparing printed replies to such inquiries, such an experience, which is not at all an uncommon one, almost deters a consul from making such reports at all, since the alert, energetic officer who makes the most reports, and consequently has the least time to spare for needlessly repeating them, is the one who gets the most inquiries. It would seem only fair, then, if consuls are to carefully collect the information, that the Department of Commerce and Labor, with its special equipment for this very purpose, should disseminate it.

ADVANTAGES OF SYSTEMATIC WORK.

In the case of trade inquiries, a requirement that these should come through the Department of Commerce and Labor would not only

spare consulates and the Departments of State and of Commerce and Labor the present system of circumlocution, but would have other distinct advantages: (1) The Department of Commerce and Labor could best judge whether the character of the inquirer and of the inquiry justified such a reply as consular officers now always feel obliged to make; (2) all the information desired may already be on the files of that Department, which could almost always give it in more complete and accurate form for a whole country than could a single consular district; (3) in many cases where a consul now has to give long lists of importers, manufacturers, etc., and to make comprehensive reports on matters that can only come to naught, the Department of Commerce and Labor could briefly point out in reply that the difficulties in the way of introducing this or that article into a certain foreign market were simply insuperable, and that would be an end of it for all concerned; (4) the loss of time to the writer of having to await an answer from abroad, instead of from Washington, would be obviated.

Nothing in this report is intended to mean that a consulate should not at all times be called upon wherever any American desires information from its district which the Government decides it is proper to thus secure, and which has not already been furnished to the proper Department at Washington. Such inquiries could be readily referred to consulates by the Department of Commerce and Labor.

MARKETING AMERICAN GOODS.

CHINA.

SUGGESTIONS ON METHODS FOR OBTAINING A FOOTHOLD.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following report relative to the methods to be pursued by American business men in introducing their goods to the Chinese:

This office, and probably most of the other consular offices in China, is continually receiving many catalogues from the United States, which can in themselves never be sufficiently effective to increase the sales of American goods. Several reasons make this a fact:

First, because most prices quoted by American business men are extremely high, on which such discounts are quoted as "80 — 20 — 10 — 10 and 10 per cent." This is not clear to business firms in the East. These devious quotations must be done away with before foreign business can be strengthened. European firms quote actual values, sometimes in the currency of the nation, but more often, if it is possible, in the currency of the Chinese port at which they expect to sell.

Second, it is impossible for the Chinese purchaser, whom the manufacturer wishes to reach, to read the English catalogue. Translation of such catalogues into Chinese would be almost as useless, as the Chinese do not understand the method of purchasing by catalogue. Mail orders are practically unknown in the Orient.

Third, American catalogues sent to consulates will not reach intending purchasers. The European firms out here have enormous quantities of catalogues of goods manufactured in their own countries, and should they have inquiries from interested Chinese they would naturally endeavor to sell goods manufactured in their home country,

with which they are probably fully familiar, rather than to endeavor to dispose of articles which they know nothing about, and which may, on arrival, not be up to description. Should one of these European firms desire to purchase American goods, it would be most improbable that he would apply to the consulate for catalogues, as usually he would not find such information as he needed, or if he did it would be so old or so insufficient as to be practically useless.

TRAVELERS BETTER THAN CATALOGUES.

Catalogues that are sent to this consulate are carefully filed, indexed, and held available for all inquirers, but applications for them are very few. If manufacturers in America would use money wasted in sending catalogues to secure some traveling agent to inspect the territory for them, and inquire as to the methods pursued by other firms in that particular district, their increase of trade would be much more rapid than under the present system.

American manufacturers desiring to dispose of their products in China can only do so by conforming to the wants of their customers, which can only be discovered by some one familiar with the particular product which is to be sold; by carefully canvassing the market, which must be done by expert agents, armed with samples, and if possible with a supply of goods in one of the large central trade centers of the Orient.

A knowledge of the Chinese language is not a necessity to such a traveling agent, though it would, of course, be of value to him. A knowledge of the customs of China, the methods of trade, the mannerisms of the people, etc., however, would be an invaluable asset.

One of the most important points is to have goods available in China, so that delivery can be made within a few days, or, when that is impossible, to be able to give credits of from one to several months.

GRANTING OF CREDITS—SYSTEMATIC INVESTIGATION.

One of the great drawbacks to the introduction of American goods, states an American business man, is that the manufacturer expects to ship with payment in advance or upon delivery to the vessel. Against this British firms give credits, even to comparatively unknown firms, of from two to six months or even more, while the German firms extend such lengthy credits that it amounts practically to sale on commission. Reform in the American credit system will do much to increase trade.

To increase trade with the Orient it is first necessary to have a thorough systematic investigation made by persons familiar with the class of goods it is desired to sell, and then to have agents, fully supplied with samples, to follow in the footsteps of the investigating commissioner.

The members of the American consular service are using their best endeavors in an effort to point out possible imports, but it is impossible for them to report fully on special lines of goods, partly because they have not sufficient time for this purpose, but principally owing to their lack of special knowledge regarding separate kinds of goods.

MERCANTILE COOPERATION.

Commercial societies could easily arrange to support an investigator in this field, whose services might be invaluable. The hardware dealers, household furnishing manufacturers, furniture factories,

wall-paper makers, reenforced-concrete builders, electric-lighting plants, etc., might combine and support an investigator who could do valuable service by thoroughly covering the countries of the Far East, and discussing the possibility of the introduction of goods of American manufacturers which might be specially adaptable to the differing climates found here.

Concrete construction might be suitable to one part of China, while iron with an inside wooden casing might be more satisfactory in another part of the Empire. A door and window manufacturer might find an opportunity to introduce his goods to a considerable extent in Shanghai, Tientsin, or one of the larger ports, for use by the European residents, but he probably could not introduce doors or windows of the size used in the United States. A consul who is unfamiliar with carpentering or house construction would be unable to give him reliable information as to the possibilities for the introduction of his class of goods, while a special agent familiar with this business might show the manufacturer an excellent opportunity or convince the houses handling this class of goods in the Far East of the desirability of securing ready-made doors or other articles, and also give the manufacturer valuable advice as to the size, quality, and probable price that could be charged for his goods.

Such information as this can only be given by persons familiar with the trade. It is reasonable to expect that an intelligent investigator could be secured who would be familiar with all the lines that might relate to house building, and without conflict might arrange to act as agent for firms dealing in many kinds of goods adaptable to such construction work. Such an investigator might be able to arrange for representatives for his clients and with a clear knowledge of the goods could undoubtedly introduce many classes of manufactures in China which are not now used.

TRADE SPECIALISTS—TRANSPORTATION.

A commercial bureau of cotton-goods dealers, established in China, with a traveling agent continually investigating conditions and possibilities of competition with the merchants of other countries; another commercial agent investigating the possibility of increasing the trade in flour and other cereals; a third agent considering the introduction of stoves, or safes, or glassware, or enameled goods, or any other line, could discover opportunities which it is impossible for the manufacturer to find by correspondence, by catalogue, or by individual effort.

American business men must be continually investigating the Eastern markets, and when a possible trade is discovered they must cater to its needs, paying special attention to the question of credits and to that of packing, remembering that the transportation facilities in the interior of China are still primitive. Competing lines of goods will often find a better sale because they are packed in some special way that makes their transportation by mule, on carrying poles slung over the shoulders of Chinese coolies, by wheelbarrow, by sampan, by mule litter, by Pekinese cart, or some one other of the peculiar methods of transport in China, easier, and therefore cheaper.

The sale of goods intended for the interior of China is largely effected by these means of transportation, and this is one of the points

that must be investigated by the special agent, the ultimate destination being one of the great points which is usually considered by the European manufacturer with whom the American must come into competition.

CYPRUS.

AMERICAN EXPORTERS LOSING OPPORTUNITIES IN THE ISLAND.

In confirmation of his previous suggestions on the commerce of the island of Cyprus, Consul-General G. Bie Ravndal, of Beirut, submits a letter from a Cyprus firm which has branch houses in several cities of Asiatic Turkey. Mr. Ravndal is firmly convinced that American commercial travelers, specially educated and trained for work in foreign countries, are an essential requisite to the promotion of the trade of the United States in that part of the world. The letter, in condensed form, reads:

Replying to your esteemed letter regarding the best means of extending the commerce of the United States in Cyprus, we beg to outline the means which might contribute effectively to the extension of trade relations between the United States and our island.

Our country ought to be visited by travelers of American firms. We attribute to such visits a very great importance. A merchant would hesitate to change his habits, even if he were sure of getting one of his articles at a lower price and of superior quality, in view of the uncertainty as to the execution of his order, the great distances and the unavoidable delays in the delivery of the goods, and sometimes many other possible events and difficulties as to the quality, the conformity of the execution, etc. A traveler could soon clear up all the prospective client's doubts and hesitancy. A local representative of a foreign manufacturer does not have equal facilities and could not give advice as well as a commercial traveler. As an example, the following may be given: We represent an American steel and wire company. This concern, among its different articles, is offering to us its water and gas tubes at lower prices than the English factories of Birmingham are offering the same kinds of tubes. We are sure that the quality of the American firm's tubes, if it is not superior, is at least equal to the English ones. Notwithstanding all these advantages, it has been impossible for us to obtain a single order for the American goods. Our clients claim that the merchandise would take a very long time—five or six months—to arrive in Cyprus, while they receive their merchandise from Birmingham in two or three months.

The same thing happens with the cabots (cotton domestics), which are imported in great quantities from Manchester and from Italy, in spite of the American cabots being better in quality and cheaper in price. This article is subject to frequent fluctuations, and the import merchants do not desire to submit themselves to these conditions during the six months of the execution and the delivery of their orders.

THREE TRADE OBSTACLES.

Consequently it is necessary that our country be visited by representatives of the factories and firms of the United States desiring

trade. The traveler is always indispensable to introduce an article. There is also the necessity for establishing at least monthly communications between the United States and the Orient. The third point relates to the terms of payment. The American firms require not only the payment to be cash, but they do not dispatch the goods without the remittance of their value in the port of shipment. Some firms do not even accept confirmed credits opened in their favor with banks of the first class at London, but require the credits to be opened at New York. All this represents more than 4 per cent of expenses, viz, 1½ to 2 per cent for the opening of the credit at New York and 2 per cent loss of interest, considering that the goods are thus paid for two and sometimes three months before their delivery or arrival in Cyprus.

The three points, viz, (1) visit to Cyprus by the traveler, (2) rapidity of transports by the establishment of monthly communications between the United States and the Orient, and (3) allowance of facilities and less severe terms in the payment, are the three capital questions which ought to be taken up by a commercial mission specially intrusted to study them at the purchasing places.

We speak with confidence on this question, as we are almost the sole import merchants and agents of American products in this country, our articles of import consisting of oleo oil, in good quantity; leathers, such as box calf, etc.; coaches, "pointes de Paris," so-called, etc.

The establishment of more rapid communication between the United States and the Orient would result also in the extension of the exportation of our products to the United States. Some articles are not valuable enough to support the cost of two to three transports, and we have not been able to ship such articles as umber earth and carob beans, that are asked for by American importers, for lack of communication between our port and the United States.

American products are not well known by the larger part of the import merchants. This is one of the principal reasons showing the necessity for visits to our country by travelers of the American factories.

HONDURAS.

SALES SUGGESTIONS TO EXPORTERS OF UNITED STATES.

A report from Consul Drew Linard, at Ceiba, states that the increase in trade between the United States and Caribbean ports is developing rapidly and the American population is becoming more in evidence each succeeding year. The consul gives the following advice on how to advance trade in Honduras and other Central American republics:

The natives of these countries are quick to adopt the habits, customs, and dress of the modern American, which results in a growing demand for everything that is American. Germany is sending out commercial men to these ports to compete with the Americans and England will doubtless soon follow the lead. To hold and permanently control the Central American trade to American manufacturers is not a difficult problem, and a few pertinent suggestions therefor might well be observed among the exporters who are about to enter this field of foreign commerce:

The exporter should not expect the consul to be his personal representative, to exploit his samples or to "push" his particular brand; yet he may be sure that equal prominence will be given his product with other manufacturers in his line.

In writing to the native merchants do not use English, remembering that in Central America the Spanish language is exclusively used in trade.

To depend upon printed matter to do business is poor policy and does not carry the conviction of traveling representatives, who should speak Spanish.

PRACTICAL POINTS.

When bidding for business by mail care in the prepayment of postal charges should be given especial attention; failure in this little courtesy is not conducive to the merchants' good humor, and penalty postage is an irritating expense.

The exporter should acquaint himself with the articles appropriate to this climate and forego his endeavor to introduce heating apparatus, steam radiators, furs, and overcoats in these latitudes. There is no market in the Tropics for such articles. Let representatives study the requirements of the people and then cater to their tastes. Argument will not overcome prejudice among them; they will pay the price for what they want and will not accept as a gift that which they do not want.

Do not unload old or questionable stock on this market and expect a continuance of patronage. An offense of this kind seriously injures American trade in many branches and creates an unfavorable impression.

To merchants of good financial standing be liberal in giving extended credit. This method is advantageous to Germany and England and is an effective and trade-winning virtue; owing to fluctuation and depreciation in the silver market, the shrewd merchant often desires to defer payments until a rise in exchange occurs, and long credits give him this opportunity to save considerable money.

GOOD PACKING NECESSARY.

So much has been written by American consuls from every corner of the globe relative to the indifferent and careless manner of packing goods for foreign transshipment that I will only add to this subject the reply of an American manufacturer to my question: "Why is it that the packing of the American exporter, though using improved mechanical devices for packing, combined with intelligent and skilled packers, does not compare favorably with European shippers?" The reply was as follows: "The American manufacturer has to pay from \$15 to \$25 a week to his head packer, while in Europe labor is much cheaper, so the merchants in Central America can not expect us to spend as much money and attention on packing as our European competitors."

Such lack of foresight is poor argument to hold trade and will not influence the importer, who wants his merchandise delivered intact and in good order. Secure and light-weight packing of goods and extended credits will obtain and retain trade, and the merchants of these countries will deal with the exporter who does business in this way, regardless of geography or elaborate advertising.

FRANCE.

CONGRESS OF INTERNATIONAL LEAGUE OF COMMERCIAL TRAVELERS.

Consul Felix S. S. Johnson, writing from Bergen, Norway, says that an International League of Commercial Travelers' Associations is in course of formation, and men of the road in many lands are interesting themselves in the movement. The consul continues:

In the month of June there will be held in Paris a great international congress at which the project will be fully launched, and in the meantime steps are being taken to enlist the support of commercial travelers in the chief countries of the world.

During the past two years the London Board of Trade has helped to clear the way for an international league of this kind, because the English Government, moved by their department, had entered into agreement with the Belgian, Swiss, and French governments, whereby facilities had been mutually created for the clearance of commercial travelers' samples through the customs. Negotiations are in progress with other countries and it is hoped by the time the league is in full swing the English Government will be in a position to announce agreements of a similar character over the whole of Europe.

It would be hard to overestimate the importance of the proposed league. Trade is international and, in spite of every restriction that could be devised by the wit of man, it must always remain international. The international movement has a great future if it will result in a better organization of trade. American business men must learn to speak in other languages, to quote in other languages, and to issue price-lists in other languages.

Foreign nations will not do business with the United States only in English, and the lack of knowledge of other languages has been a drawback to American trade. The formation of the league would add prestige to the calling of commercial travelers of all nationalities, who have similar interests which need never clash with one another, and which never obtain proper recognition unless the representatives of commerce unite and present a solid front to the world.

ADVANTAGES OF AN ORGANIZATION.

In speaking of the formation of the league, a speaker remarked: "Most quarrels, whether between individuals or between nations, are due to misunderstandings, and when people get to know each other well these misunderstandings disappear. With them disappear the quarrels, the difficulties, and the wars, which result from the ignorance of one set of people as to what is passing in the minds of others. A league of this kind would be a missionary of peace among the nations." He was convinced that the vast majority of people of all countries wish to live at peace with each other. But there are found in every country those who believe that men in another country are simply waiting and watching for an opportunity to declare war against them. When they go to the other country they find the same suspicion, the same jealousy, and the same feeling against themselves. In the course of their business commercial travelers could make it clear that all they wanted was to be able to traffic with other people and show that so far from having malignant designs against foreign countries all they desired was to live at peace and amity with their neighbors.

It is to be hoped that delegates from the commercial travelers' association in the United States will participate in the International League of Commercial Travelers, for not only will it be the means of their deriving the benefits already accorded to British commercial travelers in Europe, but new ideas, suggestions, methods, ways, and means will be brought up at this Paris conference of advancing trade and creating new markets on the Continent which will be of untold value to manufacturers and exporters of the United States.

ITALY.

PROPOSED PERMANENT EXHIBITION OF AMERICAN PRODUCTS IN GENOA.

Consul David R. Birch furnishes the following information relative to a proposed scheme for the enlargement of American trade in Italy through a permanent exhibition of goods in Genoa:

The project of a permanent exhibition of American goods in Genoa is proposed by a well-known ship broker and forwarding agent of the city, who is prepared to take up the management of the enterprise after making a conservative study of the local situation. He is closely in touch with the buyers of all classes of manufactured articles and has frequently been interrogated concerning American wares of various kinds.

It is proposed that a store with large floor space be rented, and at present the most available site is considered to be the building in course of construction next to the new Bourse. In this building, the most central location in Genoa, there is available for rental a floor space in one large room of 1,200 square meters (12,912 square feet). The rental could be met and all other expenses defrayed through the payment by each exhibitor of approximately \$20 a year for every square meter (10.76 square feet) occupied.

The promoter recognizes that unless a large number of American exporters join with him at the outset, the hiring of floor space in such a place is out of the question for the first year, because of the high rental. While it is believed that the best results can be had through the acquisition of a centrally located exhibition hall, the promoter is prepared to begin in a more modest way and work up in the event of the scheme proving a success.

EXPENSE SMALL AS POSSIBLE.

The expenses will be as small as is possible to make them, and will consist in merely the rental and fitting out of the store. There will be no outlay for salaries, as it is the purpose of the promoter to personally manage the place and work for the sale of the goods upon a commission basis.

The expenses of the American exhibitors will consist of a pro rata payment of the rental in accordance with the space occupied by their exhibits. These will always remain the property of the American houses and can be returned to the United States at any time. The charge for transportation from the United States to Genoa and the Italian customs duty upon the article intended for exhibition purposes will be for the account of the American house.

This consulate believes the project to be in good hands and that the inauguration of such a scheme will do much to promote the expansion of American trade in Italy. As to the advantage of Genoa over

other Italian cities in this connection, it is pointed out that Genoa is the principal port for American trade, not only for Italy, but for the entire Mediterranean. The value of American goods landed at Genoa last year exceeded \$40,000,000.

Hundreds of letters, frequently accompanied by catalogues, are received at this consulate from American manufacturers seeking a market for their surplus stock, but to date the results of negotiations between American houses and prospective buyers here, whose names have been furnished by this office have been far from satisfactory, for the reason that the Italian buyer prefers to see the articles before purchase.

STRAITS SETTLEMENTS.

HOW AMERICAN MANUFACTURERS CAN WIN THEIR SHARE OF TRADE.

In reporting on the failure of a few manufacturers to secure expected trade in the Orient, and the causes of such failure, Consul-General Thornwell Haynes reports as follows concerning Singapore as an entrepôt from which to exploit many eastern markets:

The cause for failures in the Orient, in the special cases referred to, was in allowing unknown agents to handle their goods, or rather not to handle them. Many an agent if he can secure a larger commission by selling an inferior foreign typewriter, for instance, than by selling a standard American make, will do so, and for the same reason he will give the preference to Australian flour, German beers, English mining machinery, etc.

A large cooperative house in Singapore, keeping in stock all lines of American goods, and from which commission-paid agents could exploit American lines, would be advantageous. Financial customs, banking, credit systems, the tastes, necessities, and markets would be learned, orders filled immediately; tariff and freight on American goods entering in bulk lessened; methods of English, German, and other rivals studied; in fact, so many advantages that enough time could not be taken in enumerating them. Certainly the proportionate share of expense of thirty or forty manufacturers would be insignificant compared to the gain. The only objection would seem to be that no two manufacturers of like goods would enter the concern, because of competition. Even if this could not be overcome, there are more than enough manufacturers of totally different lines of American goods, from a paper clip to locomotives, to make such an undertaking successful. By this means American farm implements, mining machinery, tools, etc., would have profitable outlet.

CEYLON.

AMERICAN TRADE LOST THROUGH REFUSAL TO GRANT CREDIT.

Consul E. A. Creevey furnishes copies of correspondence between an American manufacturer of gas, gasoline, and oil engines and a leading firm in Colombo desirous of handling the same, which proceeded satisfactorily until it came to the question of credit.

The firm suggested that a certain class of engine, to cost \$750, be shipped to them with the privilege of returning the same at the end of three months, should it not prove satisfactory, the Colombo firm to pay all shipping expenses to and from the factory. To this

the manufacturer replied that he could ship no engines out of the country without receiving pay therefor on delivery of bill of lading at New York or San Francisco. The Colombo firm replied that, under the circumstances, it was of no use to continue the correspondence, concluding with the following paragraph:

British, Belgium, and German firms are more generous in their conditions and terms of payment to accredited firms in the colonies to introduce new goods, and until American houses take a leaf out of their book you will have to be satisfied with your home trade.

MEXICO.

PROPOSED TOUR OF THE UNITED STATES BY BUSINESS MEN.

A Mexican journal says that arrangements are being completed by the general passenger agent for the National Lines of Mexico to take a select party of representative business men of Mexico City to the United States for a tour of the leading commercial centers during September of the present year, according to the secretary of the Chicago Association of Commerce, who has been in Mexico for the purpose of studying the commercial relations between Mexico and the United States.

EXPORT SALES AGENCIES.

HOW A GREAT EUROPEAN ORGANIZATION WAS DEVELOPED.

Consul Edward J. Norton, of Asuncion, Paraguay, furnishes the following report relative to sales agencies as a means of working up an export trade:

This consulate recently received a letter from a newly established export sales agency, in whose hands a number of American manufacturers of noncompeting products had placed the building up of their foreign trade, and some months earlier letters and circulars were received from another such organization devoted solely to the development of business in Mexico and Central and South America.

The organizers of these agencies, according to their letters, seem to possess a clear understanding of export trade, based on practical experience. One company in particular has a manager who spent some years in Mexico as a salesman and who is assisted in his work by a technical staff and a force of expert translators.

A sketch of the organization and methods of a powerful and successful European export sales organization may be found interesting. The founder of the present company commenced business as a commission agent in a Central American republic about twenty years ago. Successful in a small way, he studied conditions thoroughly and became convinced that a central sales organization, with resident agents in different countries, could build up a large business.

He went to Europe and secured the lines of a number of manufacturers whose products, while noncompetitive, were more or less related. Operated at first on a small scale, the organization soon developed and extended its field. New salesmen were sent out, and to-day the company, with its central offices in France, has a resident agent in every republic from Mexico to Argentina, and the amount of business handled is very large.

About thirty-five manufacturers, scattered throughout France, Italy, Spain, Ireland, Scotland, England, and Holland, are repre-

sented. The products handled are Spanish, French, and Italian wines, liqueurs, and cordials; beers, cognacs, champagnes, gins, and whiskies; canned fish and vegetables, and a line of French biscuits and preserves, complete the list.

The operations of this agency from its beginning have been confined to the Latin-American Republics. The home office, with its thorough knowledge of conditions and business affairs in Spanish-America, directs the agent, helps him through difficulties, and sees that no opportunities are neglected.

WORK OF THE AGENT.

The agent speaks the language of the country to which he is appointed—Spanish, French, or Portuguese, as the case may be. Before leaving for his post he is thoroughly instructed in the products he is to sell. He visits each factory and studies the goods; notes the method of packing and assembling orders; the system of each separate concern in its relation to the central agency, etc.

Agents are bonded and are forbidden to take on any side lines. Salaries range from \$1,000 to \$1,500 per year. In addition to this, commissions on sales, running from 1 to 5 per cent, are paid. Actual office expenses are allowed, but no provision is made for traveling expense, this being offset by the allowance of increased commissions on goods sold while traveling over each district.

Each agent forwards a detailed market report every week, covering conditions in his territory and giving full information regarding each client or prospective customer, the movements of competition, etc. This information is sent to the central office and separated and sorted. A compilation of the agent's report eventually reaches each manufacturer, but touching only upon the topics relating to his particular product.

Small orders are shipped by the manufacturer to the central agency where they are lumped with other goods to save expense, being shipped in one consignment under one consular invoice, insurance policy, etc., and the actual expenses are charged proportionately on the buyers' invoices. For goods so dispatched, the central agency makes the drafts and handles the collection of the invoices. Large shipments are forwarded direct from the manufacturer to the buyer, and the manufacturer draws up the documents and collects his own account. Orders are forwarded in quadruplicate. The original goes to the manufacturer, a duplicate to the central agency, while the buyer is given a copy and the agent retains the other.

CREDITS AND DISCOUNTS.

In the Argentine Republic, Uruguay, and Paraguay, the usual credit terms to responsible merchants are six months from date of shipment. The goods are generally four months in transit. Bolivian merchants, on account of their geographical situation, are allowed nine months from date of shipment. All shipments are made against documents, the purchaser accepting the draft and also paying the cost of collection. In presenting a draft for acceptance the customs of the country are invariably respected. In the Argentine Republic, Uruguay, and Paraguay, the buyer inspects the shipment previous to accepting the draft. Discounts of from $2\frac{1}{2}$ to 3 per cent are allowed for cash on arrival of goods, and $\frac{1}{2}$ per cent per month

is given for advance payments. Interest at the rate of 5 per cent per year is charged on overdue accounts.

In determining the financial responsibility of buyers the agents draw their information from the banks, and through commercial circles in general. Losses through bad debts are proportioned among the agent, the central agency, and the manufacturer, at about 10, 40, and 50 per cent, respectively.

A catalogue issued by the central agency is a handsomely bound volume containing the catalogues of all the manufacturers represented. It is printed in French, Spanish, and Portuguese, according to the country in which it is to be circulated. The nature and advantages of the central selling agency plan are explained in an interesting manner; terms and prices are given. Discounts are not printed, however. The cost of newspaper advertising or special propaganda is borne by the manufacturer.

AMERICAN SALES AGENCIES.

As the writer understands the methods of the American export sales agencies, they are working in part or wholly through the mails. This is one of their weak points, and a method hardly more efficient in securing new business than the efforts previously put forth by the manufacturers whom they now represent. The agencies may translate catalogues and conduct a correspondence with a foreign customer in his own language, but even this will prove to be of little actual value. Tons of catalogues come annually to countries as small and isolated as Paraguay, and it is rather discouraging to note the indifference with which they are regarded. I have seen heaps of them lying in the corners of many offices, covered with dust, their wrappers still unbroken.

The man on the spot is the man who develops trade, and the export sales agencies, or the manufacturer who works out his own export problem, must have a representative, traveling or resident, before much headway will be made in the building up or extension of foreign business. This method is expensive, but it brings results.

In sending out representatives the territory nearest home should be canvassed first. There is plenty of it. Mexico is a good field, and a big one. The trade of Cuba, Jamaica, the Central American Republics, Panama, and Colombia shows an ever-increasing demand for American goods, and in some of these countries the American traveling salesman is rarely seen.

Export sales agencies must withstand the temptation of overloading themselves with clients. They should choose the field with which they are thoroughly familiar, and then stay in it. A selling organization, for example, giving its attention to South America, will find plenty to do, and by limiting its sphere of action may select the goods most adapted to that section.

It is not necessary to allow unreasonably long credits in South America. If American manufacturers would look at the credit question closely, from this end, noting the strict attention paid to business, the simple manner of living, the absence of extravagance, the relatively few business failures, and the vitality and progress of these countries, he would feel that the time had arrived for him to depart from his inflexible rule of cash and extend to responsible merchants in South America the same reasonable term of credit he allows to his customers at home.

MISTAKES BY SHIPPERS.**CUBA.**

MANY EXPORTERS IN THE UNITED STATES FAIL TO OBSERVE REGULATIONS.

American shippers to Cuba continue experiencing difficulties at the island's custom-houses because they neglect to conform to the regulations and laws of administration. Consul-General James L. Rodgers has just concluded an investigation of a shipment of furniture by a Chicago firm, which complained when their goods were sold by the Habana authorities for accumulated charges. The consul-general's report, which follows, should cause exporters to Cuba to fully observe the customs regulations of that Republic:

The attention of American shippers to Cuba, and especially to those whose goods are consigned to Habana, has been called many times to the excessive charges brought about by failure to clear the goods promptly. A previous statement was as follows:

It should be remembered by shippers to Cuba that, owing to the lack of wharf space at Habana, the great port of entry, there is of necessity but limited time for the clearance of goods, and after this period, namely, seventy-two hours, high charges for transfer and storage commence, and these constituting a first lien on the shipment, oftentimes, in event of delays in clearance through defective papers, failure of consignee to receive, and other causes of related character, will not only absorb profits but also occasionally result in confiscation. These rates for transfer and storage are about to be increased by the Government. The schedule is not given at this time, but the assurance can be advanced that they are already sufficiently high to warn all exporters of the wisdom and economy of exercising the greatest care in their exportation documents and to be ready with a prompt remedy in the event of the customer failing to receive the goods.

This warning has been repeated several times, and in addition there has been given the storage charges, which are as follows: For the first five days, 5 cents per 100 kilos (kilo = 2.2 pounds) daily; after five days, at the rate of 10 cents per 100 kilos daily, until the consignment goes to the general warehouses, where the charges are \$1.25 per 100 kilos for the first month, and 1 cent per kilo per month thereafter, the minimum amount charged for being 100 kilos. In addition, there is a cartage charge from the wharf to the warehouse of 25 cents per 100 kilos.

REASONS FOR THE CHARGES.

The explanation for these high charges lies simply in the fact that the wharfage space in Habana is so small that it is absolutely necessary to compel the removal of goods as speedily as possible, and to further enforce the rule the Treasury Department announced last summer the intention of increasing the charges. This, however, was not done, but the threat served its purpose.

There have been many instances of a character similar to this complaint, and in every case there has been absolutely no remedy, the Cuban government reserving to itself the right to make its own wharfage and storage charges and to sell at auction such unclaimed goods as remain. To warn shippers of the danger of the confiscation of their goods by reason of their being allowed to remain at the wharf or in the warehouse pending settlement of disputes with consignees

or the disposal of the goods to other people, this consulate-general has taken every opportunity to bring it to the attention of commercial interests in the United States.

In the case in question it seems that the shipment arrived in Habana on July 29, 1907, and therefore storage charges on 28 packages accrued for nearly eight months. The agents of the exporting company are, therefore, exactly right when they state that the charges mentioned are in accordance with the tariff and that the sum total of wharfage, storage, and duties is now greater than the value of the goods.

The remedy of these shippers would have been to have cleared their goods through a bank or a customs broker and had them promptly disposed of or placed in storage where charges are more reasonable, or they could have had them shipped back to the United States. It could not be suggested that the practice of the Cuban authorities in the matter should be changed, when there is absolute warrant for the statement that the demands on wharf space justify the procedure.

SPAIN.

COMPLAINTS AGAINST AMERICAN SHIPPING AGENTS.

Consul-General Benjamin H. Ridgely, of Barcelona, alluding to the fact that he has frequently called attention to the failure of American merchants to forward bills of lading at the time of the shipping of merchandise from the United States to Spain, now adds:

Attention must now be called to the failure of American shipping agents in many instances to ship by direct routes. In consequence of this failure considerable injury has been done to our commerce in Spain, as well as in other countries. Two cases are before me at this writing. The first is a shipment of typewriting machines. These goods were ordered in November, 1907, and it was explained that they must be sent immediately in order that the purchaser, who had just established an agency for American products, might begin business during the active winter season. He waited and waited for the goods, and they finally came on March 23, after he had been assured that they would be shipped no later than December 30.

It now appears that the New York shipping agents got hold of the goods and, instead of shipping them direct to Barcelona by one of the several lines sailing direct to this port from New York, held them in their possession for some time, and finally shipped them via Bremen. As a consequence, they reached here only after having been seven weeks en route. Meanwhile the purchaser of the typewriting machines had lost many opportunities of doing business, and is in such a state of disappointment and annoyance that when the machines finally had arrived he felt very much like having no further business with the manufacturers.

In another instance, a marine motor engine ordered in October by telegram and acknowledgment of the order accepted by telegram has not yet arrived, although the sellers claim to have delivered it to their shipping agents in New York about December 1. It was intended as a sample for a boat builder here, who was anxious to install and show

it actually working during the winter and early spring. This is now impossible, and as a consequence the purchaser has lost what he thinks was his best chance to do business in the goods in question.

According to information which has been given me, both of these failures to deliver goods promptly in Barcelona are due to the neglect of the shipping agents, who in both instances are New York firms.

It is easy to ship direct to Spain from New York at least two or three times a month, and there is no reasonable excuse for these abnormal delays. If shipping agents would only appreciate the harm that is done American commerce by negligence of this character, perhaps they would be more careful.

COMMERCIAL BUREAUS.

GERMANY.

THE AMERICAN CHAMBER OF COMMERCE IN BERLIN.

The following information relative to the efforts of an organization for the simplification of commercial relations and the enlargement of trade between Germany and the United States is furnished by Vice-Consul W. Washington Brunswick of Barmen:

American business in Germany had for many years felt the necessity of an organization to protect its interests, and cope with the many difficult problems which were impossible to the individual. With the idea in view that through organized effort alone could those interests be protected and trade between Germany and the United States increased, the American Chamber of Commerce was organized in 1903, in Berlin, the officers and directors of which were men prominent in the German and American business world.

The constitution of the association requires the president and two-thirds of the members to be American citizens, for the protection of the interests which primarily led to its organization.

This two-thirds clause does not in any way interfere with the interests of the German members, because all individual interests and complaints are thoroughly considered and investigated by the various committees, each of which has a particular line of work allotted to it. Thus the exporter and the importer present their grievances, and if these are found to be detrimental to commercial interests representations are at once made through the proper channels.

SCOPE AND MEMBERSHIP OF THE ASSOCIATION.

The German authorities give immediate attention to complaints of our importers when presented by the association, and this is alone attributable to the impartial and quiet way in which it is working for the common good and a better understanding between the two peoples.

The American consulates in Germany have found in the association a valuable adjunct for giving information and assistance in affairs of business, and this can be readily understood from the fact that the activity of the association is not confined to any one section, its scope being international, embracing as it does the German Empire and the United States. Many commissions which have come to

Germany from the United States have received valuable assistance through the officers and directors of this organization.

The membership of the organization is composed of about 200 men prominent in the American and German business world, and having been familiar with its workings for a number of years, I have endeavored to give a brief outline thereof, to show what a power for the betterment of trade relations a strictly nonpolitical business association can be, and what can be accomplished along lines which are rational, logical, and impartial.

NETHERLANDS.

FREE COMMERCIAL INTELLIGENCE BUREAU FOR INTERNATIONAL TRADING.

In explaining unavoidable delays in securing for correspondents the names and addresses of importers and exporters—no classified lists of such firms being published—Consul-General S. Listoe, of Rotterdam, writes as follows relative to a bureau which supplies all such information:

It may interest business men desiring to secure trade in this country to know that there exists in Amsterdam an institution called the "Bureau voor Handelsinlichtenen" (Commercial Intelligence Bureau) which furnishes addresses and commercial information of nearly every description, free of charge, and that by addressing this bureau direct inquirers will often be able to save valuable time.

The bureau is subsidized by the Dutch Government, and tells of its scope, and the conditions under which information is supplied, as follows:

The bureau abstains from all interest in commercial dealings which it promotes; nor may it enjoy any profits from them. It places its information absolutely free at the disposal of any firm, on the sole condition that the applicant be recommended. According to its statutes guaranty should be given in all instances.

The bureau does not give information as to the financial status of firms. It supplies its information to the best of its ability, but without any responsibility. In no case does its information release the applicant from the obligation of safeguarding his own interests. Applicants should add references (the applicant's bank and two commercial firms by preference in north Europe).

If articles are offered to buyers in Holland or colonies, samples of the offered articles should be sent to the bureau (freight and duty paid). If articles are wanted from Holland or colonies, exact specification of such articles is necessary. Correspondents should address O. Kamerlingh Onnes, director Bureau Voor Handelsinlichtingen, Amsterdam, Holland.

MEXICO.

AUTHORITY ASKED TO ESTABLISH CHAMBERS OF COMMERCE.

Ambassador D. E. Thompson, of Mexico City, forwards a clipping from a Mexican newspaper descriptive of a plan contemplated by the Mexican Government for the establishment of chambers of commerce, from which the following extract is made:

The minister of finance, Lic. José Ives Limantour, has sent to congress a very important bill providing for the establishment of chambers of commerce in the most important cities of the Republic, for the purpose of promoting the general welfare of the country, to be the intermediary between the Government and

the business men, to act as arbitrators in cases of disputes, and to effect the liquidation of failing concerns.

The minister of finance thinks that, while the general policies of the Government are an indirect way of increasing trade and commerce, the time has come when the Government should take special measures to aid the commercial interests.

Some chambers of commerce have been working for years in the country, but they have been entirely private institutions, without any official representations and without any authority, their work being limited to mutual aid.

The chambers of commerce which may be organized under the terms of the bill will be called *Camaras Nacionales de Comercio*, and their purpose will be, in general terms, to look out for the interests of the national commerce.

BRITISH NORTH BORNEO.

CHINESE CHAMBER OF COMMERCE IN SANDAKAN.

Consul Lester Maynard makes the report from Sandakan that a meeting of the principal Chinese merchants and traders was called by the protector of Chinese and superintendent of immigration of the British North Borneo government to consider the advisability of forming a North Borneo Chinese Chamber of Commerce on the same lines and with the same rules as the one in Singapore, Straits Settlements. At a later date a second meeting will be held for the purpose of electing officers and organizing a chamber. As this is the first organization of its kind in British North Borneo, the consul suggests that manufacturers and shippers forward to the Sandakan consulate catalogues and price lists, in duplicate—one for the file of the consulate and the second for the file of the Chinese Chamber of Commerce.

INFORMATION FOR EXPORTERS.

BOOK OF SUGGESTIONS FOR WINNING FOREIGN MARKETS.

Many letters having been received by the Bureau of Manufactures from American exporters making inquiry as to the best methods to pursue in seeking foreign trade, a monograph of 256 pages has been prepared covering various phases of this subject. It is entitled "Winning Foreign Markets," and contains chapters on Methods and Requirements, Success of Italy, Obstacles to Trade, Shipping Facilities, Proper Packing, the Parcel Post, Foreign Advertising, and Patents and Trade Marks. Copies of the book may be secured on application to the Bureau.

INDUSTRIES.

CONDITIONS AND PRODUCTS.

NETHERLANDS.

DECREASED DIAMOND EXPORTS TO AMERICA—EFFECT ON THE INDUSTRY.

Consul Henry H. Morgan, writing from Amsterdam, says that possibly no country of Europe has been relatively affected so disadvantageously by the financial crisis in the United States as the Netherlands, largely on account of the total suspension of the diamond trade. He reviews the market situation as follows:

In 1905 the exports of polished diamonds from the Netherlands to the United States amounted to \$9,197,843; in 1906 the exports were \$11,633,352.

The year 1907 opened auspiciously and under most favorable conditions for the trade, and it was then thought that the number of diamonds that would be exported to the United States would be far in excess of any previous year, but in the month of July the American buyers began to reduce their purchases, and as the financial crisis in the United States became more acute the orders from America ceased entirely, and from the middle of August up to the end of the year the entire shipment of diamonds through this office did not exceed \$75,000, and the total exports for the year amounted to only \$7,452,604, as against \$11,633,352 for the calendar year 1906. In sympathy with the American market the other markets of the world became affected, but not to the extent anticipated, and while the business was not as good as in previous years the decrease was not of such extent to cause alarm, and considerable satisfaction was found in the fact that China and Japan had during the past year commenced to import large quantities of the cheaper grades of goods.

One danger the diamond people had to contend against and which constituted a source of anxiety was the fear that the United States, their principal customer, having ceased to purchase, the price of diamonds, according to the law of supply and demand, would be considerably reduced, but fortunately for them the business was in exceedingly strong hands, and a tacit agreement was entered into to sell no diamonds under the prevailing market price, which agreement has so far been adhered to. This is evidenced by the statement of an American buyer at this consulate some time ago that he had come here prepared to buy \$250,000 worth of diamonds provided he could get them for 30 florins (\$12.06) per carat below the market value, but had been unsuccessful. The banks of Amsterdam, with the exception of the Amsterdamsche Bank, which during the height of the crisis declined to advance any money on diamond paper or diamond collateral, are now advancing all that is required at 4 to 4½ per cent.

Those taking a pessimistic view of the situation regarded the closing down of the polishing factories and the throwing out of employ-

ment of 4,000 to 5,000 polishers with considerable anxiety. They contended that these workers would start to polish on their own account, and as the brokers had no control over them they would sell their product at a price considerably below the market value. This in effect did take place to some extent, and there are now about 1,000 workmen polishing diamonds on their own account and selling them at reduced prices, but it is said that they are for the most part rose diamonds; and, as they are only able to turn out at most 2,000 carats per week, this quantity is not liable to have any effect on the market.

FUTURE TRADE PROSPECTS.

The whole question, however, as to whether the price of diamonds is to be kept up is altogether dependent upon what action may be taken by the Rough Diamond Syndicate, of London, controlling the output of the De Beers Company and the Premier Mine Company, which represents about 95 per cent of the world's diamond production. This syndicate, in connection with the De Beers and the Premier Mine, has given to the diamond people of Amsterdam and Antwerp a solemn assurance that under no circumstances will they reduce the prices of rough diamonds, and as they are vitally interested in keeping the prices up, there is every reason to believe that this assurance will be strictly adhered to. It is not to be denied that the diamond brokers of Amsterdam are at present loaded with diamonds, and if the Rough Syndicate should reduce the prices of the rough diamond a great calamity will be brought not only upon themselves, but upon the brokers who would be forced to sacrifice their stocks. At present, for mutual protection, the strong are carrying the weak, but should the price of the unpolished diamond be reduced there would be a rush to cover and the disaster to the trade would be very great.

Possibly the most important and influential diamond broker of Amsterdam, at my request for an expression of opinion regarding the outlook of the diamond industry for the coming year, has given the following opinion:

As the stock of polished diamonds has not increased during the past six months, on account of all the factories being closed, and as there was much more sold than polished, I shall not be astonished that as soon as there is a demand for diamonds again we shall see the same condition which prevailed after the big lockout of February, 1904. There will be a scarcity of the right goods on account of the reduction to one-half of the output of the De Beers and Premier mines, and a rise in the price of the rough article is not at all improbable. No one can say with any certainty what the results for 1908 will be, but the above-mentioned facts will sufficiently prove that, even if it takes some time before we shall see an improvement in business, there need not be any fear for losses caused by lower rough prices, and this is the main and most important factor of our trade.

MEXICO.

PRESIDENT'S MESSAGE SHOWS INDUSTRIAL AND ECONOMIC ADVANCEMENT.

The message of President Diaz to the Mexican Congress on April 1 called attention to a number of facts relating to the development of that Republic, among which may be noted the following:

There is a constant growth in the number of applications for concessions to use water courses, subject to Federal jurisdiction, for irrigation and motive

power. In the first half of the current fiscal year 32 concessions involving 163,000 liters (liter=1.05 quarts) per second to be used for the two objects named were granted, and 37 title deeds were issued, some for the purpose of confirming rights previously acquired and others as the result of new concessions.

Two concessions have been granted for the taking of fish and marine products in general, and 4 for the extraction of guano from islands in the Gulf of Mexico and the Pacific Ocean.

PATENTS AND TRADE-MARKS—FISCAL AFFAIRS.

In the six months from July 1 to December 31, 1907, 634 patents of inventions, 28 for industrial designs, and 14 for new models were granted; 478 trade-marks, 5 commercial announcements, and 13 commercial names were registered; and 11 trade-marks were registered under article 187 of the existing law.

The quantity of coin in circulation has been continually on the increase. In the latest six-monthly periods \$9,000,000 in gold and \$3,000,000 in silver coins of \$1 and subsidiary coins have been struck, and adding to these coins the nickel and bronze pieces the total quantity of the new currency put into circulation increased from \$98,000,000 to more than \$111,000,000, and it is to be observed that during the same period no considerable amount of the national currency left the country, but on the contrary nearly 3,000,000 hard pesos returned hither from abroad.

ENCOURAGEMENT OF AGRICULTURE.

One of the principal measures adopted for the encouragement of agriculture has been a law which concentrated under the jurisdiction of the department of fomento all establishments which aim at imparting a knowledge of husbandry, and which authorized that department to reorganize the methods of agricultural training. * * * The National College of Agriculture and Veterinary Surgery has reopened its classes under a new curriculum and with 240 students from all the States of the Republic.

* * * At all of the experimental stations local colleges will be founded in order to impart to tillers of the soil who have been unable to acquire a scientific knowledge of farming such general principles and practical advice as will enable them to derive better and more remunerative results from their daily toil.

RAILWAY CONSTRUCTION—POSTAL AFFAIRS.

The additions to the railways under Federal jurisdiction have aggregated 462 kilometers (kilometer = 0.62 mile), the total length of those railways at the present time being 18,386 kilometers, and adding the length of railways under the jurisdiction of the States and private lines, which is 4,436 kilometers, the total length of the nation's system of railways is found to be 22,822 kilometers.

The receipts of the Tehuantepec National Railway have continued to grow, due to the new freight traffic. From July to December, 1906, the earnings of the line were \$562,000, and in the corresponding period of 1907 they amounted to \$1,972,000, showing an increase of \$1,410,000.

During the first half of the present fiscal year, 25 new post-offices, 99 agencies, and 10 ambulatory offices were opened, and the total number of offices on December 31 last was 2,909.

The total number of pieces of mail matter of all kinds handled in the first half of the present fiscal year was 90,000,000, against 86,000,000 in the corresponding period of the preceding fiscal year.

During the first half of the current fiscal year there was no intermission in the efforts to improve the Federal telegraph system. The new lines erected totaled 868 kilometers, but the net increase was only 454 kilometers, as some lines in various parts of the country were abandoned. Seven new offices were opened, and three were discontinued. The volume of messages handled and the receipts show an increase of 7½ per cent.

AIDS TO IRRIGATION—NATIONAL AMMUNITION FACTORIES.

The Sonora Scientific Commission has built 5 levees along the Yaqui River as a measure of defense against inundations, has delivered 349 records of posses-

sion and 67 title deeds to peasant proprietors in the region of Bacum, and made 30 grants of arable land to settlers near Torin; inspected and saw to the cleaning out of the irrigation canals; and parceled out the new town site of San Pedro into lots which it also distributed among the inhabitants.

Owing to the urgency of completing the map of the State of Sonora, the commission decided to transfer its headquarters to Magdalena, and work is now in progress for the topographical survey of the northern part of the State.

The plant of the National Cartridge Factory has been completed, and it has entered on the preliminary stages of its operations, leading up to its starting work at full capacity, when the country will no longer be obliged to buy the war munitions which it needs from foreign factories.

A contract has been entered into with the Krupp Works for the installation of a plant for the manufacture in Mexico of smokeless powder for cannon and small arms.

Half of the ammunition wagons for the light 80-millimeter Mondragon guns have been completed.

The inventor of this style of gun has succeeded in transforming his 70-millimeter mounted cannon into a rapid fire gun, and the transformation has been approved by the respective technical commissions.

EDUCATIONAL PROGRESS.

In order to draw still closer the relations which happily exist between the educational corporations of the United States and our own, the subsecretary of public instruction, while at Washington, at the beginning of last month, extended an invitation to the National Association of American School Superintendents to gather in Mexico in the year 1910 for one of its important meetings, which will coincide with a similar meeting of Mexican educators. The invitation was received with marked enthusiasm.

A new building especially constructed for the National Law School was recently inaugurated. The curriculum of that establishment, as of all other institutes of learning under the jurisdiction of the Government, is being more and more directed into practical educative channels.

The growing attendance of pupils at all the public schools—primary, normal, preparatory, professional, and special—gives particular importance to the question of adequate premises. [The message contains details of the plans for increased school accommodations.—B. of M.]

As manual training has been established in all the primary schools, academies have been instituted in the normal schools in order to impart a knowledge of this training to those who are studying for the career of educators.

CANADA.

MAGNITUDE OF THE FISHING INDUSTRY—DISTRIBUTION BY PROVINCES.

Consul Alfred J. Fleming, of Yarmouth, supplies the following information with reference to the fishing industries of Canada for the fiscal year which ended March 31, 1907, the facts having been taken from the recent report of the minister of marine and fisheries:

The report states that the fisheries of Canada are the most extensive of the world. The eastern seacoast of the Maritime Provinces, from the Bay of Fundy to the Straits of Belle Isle, covers a distance of 5,600 miles, more than double that of Great Britain and Ireland, and the salt water inshore area, not considering minor indentations nor the Great Lakes of the West, covers more than 1,500 square miles.

The total fisheries expenditures for the year amounted to \$693,685, divided as follows: Fisheries proper, \$95,930; fish culture, \$118,681; fisheries protection service, \$204,837; miscellaneous expenditures, \$115,222; distributed as bounties among the deep-sea fishermen of the Maritime Provinces, \$159,015.

VALUE OF THE CATCH.

The total value of the catch, including fish, fish products, seals, etc., was some \$3,000,000 less than in the fiscal year 1906, which was caused, nearly altogether, by the phenomenal catch of salmon during the latter year. The following statement shows the catch in the fiscal year 1907, by provinces:

Province.	Value of catch.	Increase (+) and decrease (-).
Nova Scotia.....	\$7,790,100	- \$459,925
British Columbia.....	7,008,347	-2,846,809
New Brunswick.....	4,905,225	+ 68,135
Quebec.....	2,175,055	+ 171,319
Ontario.....	1,734,836	+ 25,898
Prince Edward Island.....	1,105,939	+ 170,017
Manitoba, Saskatchewan, and Alberta.....	1,492,923	- 318,647
Total.....	26,279,485	-3,200,077

The value of the principal kinds of fish, prepared for marketing, was as follows: Salmon, 30,000,000 pounds, packed in 77 canneries, employing 15,000 persons, \$5,856,760, a decrease from the preceding year of over \$3,000,000; codfish, \$3,471,166, of which \$3,353,875 worth was dried; haddock, \$766,896; hake, \$384,490; mackerel, \$1,369,728, of which \$781,135 was salted, the remainder fresh; lobsters, 10,000,000 cans, and about 10,000,000 fresh or live, \$3,422,927, of which \$2,522,179 worth was canned. Practically all the live, and a large percentage of the canned, found a market in the United States.

Not counting those engaged in lobster fishing, 76,100 men, and 1,439 vessels, of 40,827 tons, valued at \$2,841,875, were engaged in the Dominion fisheries in 1907.

GERMANY.

CONDITIONS ABROAD AFFECT TOY TRADE—PROPOSED PRICE INCREASE.

Consul H. W. Harris advises that a Nuremberg journal recently printed an article on the effect which the prevailing business condition is having on the German toy industry.

It is stated that of a total product of German toys in 1907, estimated worth \$25,000,000, about \$19,000,000 worth were exported. Of this trade the United States and England took more than half. Financial stringency in both countries, it is stated, has already caused a marked falling off in shipments to them, showing that this branch of German trade is in a marked sense dependent upon prosperity abroad.

In January, 1908, the exports of toys from Germany to the United States amounted to 560 tons, as against 904 tons in January, 1907. The exports to England for January, 1908, were 387 tons, as against 625 tons in the corresponding month of last year, or a total decrease in the two countries of 582 tons. A somewhat similar decrease is also noted in toy shipments to Belgium, British India, the Argentine Republic, Brazil, and Canada, while exports to France, Austria-Hungary, Russia, and Switzerland show increases.

It is stated that, as a result of trade conditions, there has been a reduction of hours of labor in some of the toy factories and in the num-

ber of those employed in others. House industry is said to suffer especially as a result of these conditions, and difficulties appear in carrying out a proposed increase of from 10 to 15 per cent in the price of German toys. The immediate outlook for the industry as a whole is pronounced not altogether favorable.

SWITZERLAND.

FAVORABLE SHOWING OF MANUFACTORIES DURING RECENT YEARS.

The following table published by the Government industrial department and forwarded by Consul A. Lieberknecht, of Zurich, gives the number of manufacturing establishments in Switzerland at the close of 1906 and 1907 and the number of workmen employed therein:

Canton.	1906, establishments.	1907.		Canton.	1906, establishments.	1907.	
		Estab-lish-ments.	Work-men.			Estab-lish-ments.	Work-men.
Zurich.....	1,059	1,102	67,331	Schaffhausen.....	77	83	6,294
Berne.....	984	1,024	36,708	Appenzell.....	233	233	5,827
Lucerne.....	177	181	7,175	St. Gall.....	829	863	30,545
Uri.....	14	15	846	Graubunden.....	111	116	2,949
Schwyz.....	69	65	3,429	Aargau.....	477	494	26,348
Obwalden.....	19	21	304	Thurgau.....	381	397	18,412
Nidwalden.....	22	25	891	Tessin.....	209	220	6,658
Glarus.....	99	103	7,906	Waadt.....	487	521	13,439
Zug.....	42	45	2,522	Wallis.....	54	61	1,468
Friburg.....	99	104	3,931	Neuenburg.....	460	469	13,120
Solothurn.....	233	248	19,438	Geneva.....	469	500	10,500
Basle:							
City.....	270	277	15,296	Total.....	6,988	7,278	307,128
Country.....	114	111	6,241				

In 1901 Switzerland had 6,080 manufacturing establishments, employing 242,534 workmen, the increase in six years being 1,198 factories, or 16.46 per cent, and 64,594 workmen, or 21.03 per cent.

FOOTWEAR AND LEATHER.

SICILY.

PRIMITIVE METHODS AND EXCELLENT PRODUCT OF THE TANNERIES.

The following information concerning the leather industry of Sicily, and the share of the United States therein, is furnished by Consul Arthur S. Cheney, of Messina:

Sole leather is the principal leather manufactured here, nearly all other varieties consumed being imported. The product is entirely handmade and prepared with tannin, which is preferred to bichromate of potash. Oak bark is mainly employed, in combination with tanning material made from acorn cups. The supply of bark is brought from Africa chiefly, with small quantities from Calabria.

Visiting the largest and best tannery in the province of Messina, where some 8,000 hides are annually prepared, it was strange to observe the primitive methods employed; methods, however, which are productive of a fine finished article. Except the comparatively few and simple hand tools of the workmen, no mechanical appliances of any kind are in use, either in the manufacturing or transportation processes. In this tannery the wages paid are somewhat above the

average and are about as follows, per day: Trimmers, 62 to 68 cents; vatmen, 42 cents; finishers, 77 cents; laborers, 38 cents.

COST OF PRODUCTION—PRICES OF LEATHER—OUTPUT OF TANNERIES.

The total cost of tanning is estimated at 120 lire per 100 kilos (\$23.16 per 220 pounds) in the Messina district, and this will not vary much in the other provinces. The prices of Sicilian sole leather vary from \$71.42 to \$73.35 per 220 pounds, for the product of Acireale, for hides weighing 18, 20, and 22 pounds per half hide, to \$77.22 for hides weighing 11, 13, and 15 pounds per half hide for the best Messina article.

There are 13 tanneries in the district of Messina, employing about 380 workmen, using annually about 9,000 Sicilian hides, and about 42,000 from South America, chiefly from Uruguay and Argentina, in addition to about 27,000 calfskins from South America, South Africa, and India. Nearly all the production of these tanneries is sold in Sicily and Calabria, the remainder being sent to Venice, Naples, and towns in the province of Apulia, but none are exported.

In Palermo and its province there are 15 small tanneries, with about 350 employees, producing annually 30,000 tanned hides, of which some 22,000 are imported in the raw state from South America. In Catania are 8 tanneries, with 170 workmen, and an annual production of 34,000 hides, nearly all of South American origin.

In Acireale are 9 large tanneries, employing 250 workmen, and with an annual output of 50,000 hides, all imported raw from South America, and 10,000 calfskins. About 15 other small tanneries are in operation in Vizzini, Termini, Grotte, and Cefalù, giving employment to about 100 workmen in all, and producing annually about 4,000 hides, all coming from local abattoirs.

LEATHER TRADE.

There are about 453 leather dealers in Sicily. As sole leather is the principal production here other varieties are mainly imported, the different sources of supply being about as follows: From the United States, black calf and kid; from France, black calf, kid, chrome, and colored leathers, the "Veau ciré" being most esteemed; from Germany, patent leather, chrome black, and colored leather; from Austria, polished leather and chrome black; from Russia, "Juchten" leather, prepared with birch bark.

Large importations of American half-chrome leathers were formerly made, but Germany has now absorbed this trade by selling at a lower price and sending a softer leather.

American exporters could regain this market if they would ship goods in conformity with the local demand, which is solely for tough hides measuring 8 to 9 feet, or 100 to 115 feet per dozen, and the price should not exceed 1.1 to 1.25 lire (21 to 24 cents) per foot c. i. f. Messina. It is claimed that American exporters, in filling orders, demand that hides measuring 130 to 140 feet per dozen be accepted, while German firms ship exactly according to specifications, and hence are successful in winning trade. There is no sale here among local consumers for hides of over 9 or 10 feet, and importers who receive larger ones in their consignments have them left upon their hands. Given hides of required dimensions at a price competing with those of German production, there is a real desire upon the part

of large importers here to purchase in American markets, but American dealers must be prepared to conform to the needs of the trade.

The duty, Government and municipal, upon chrome leather is 19 centesimi per kilo (3.7 cents per 2.2 pounds).

Of goat and kid skins, those measuring about 5 to 6 feet, of fine and strong texture, are especially desired by this market, and this demand is fairly well supplied by home production.

EXPORTS OF SKINS—BY-PRODUCTS OF TANNERIES.

Large numbers of raw skins, goat, kid, sheep, and lamb, are annually exported from Sicily and from the neighboring province of Reggio, on the mainland, viz, to the United States, 583,000; to France, 440,000, a large portion of which eventually finds its way to the United States. No hides of cattle are exported, but large numbers of donkey and horse hides are sent to Toscana.

As by-products from Sicilian tanneries there are 140,000 tons of ox hair annually exported to France, whence the larger portion is reshipped to the United States. Some 320,000 tons of carnasse (material from the fleshy sides of raw skins) are also annually exported, largely to the United States, for glue stock. The larger portion of the product of this material is, however, manufactured into glue in Palermo.

LEATHER MANUFACTURES.

Large quantities of very cheap shoes are made in Sicily, especially in Catania. Custom-made shoes are good and compare well with those of other countries. No exports of shoes are reported.

A small quantity of cheap harness is manufactured here. Most of the highly decorated harness seen on the donkeys, mules, and horses drawing the characteristic Sicilian carts, embellished with wonderfully painted pictures, chiefly of religious and historical subjects, on the body, and with designs in bright colors on wheels and shafts, comes from small manufacturers in Sicily. The larger portion of the finer grades of horse harness is brought from Naples and Milan, but some is manufactured in Catania.

Many ox teams are used here, all of them being harnessed with primitive yokes and breech straps. The small amount of leather entering into these harnesses is tanned and made up in local factories from the cheapest material.

Trunks, valises, and traveling requisites of leather are mainly imported from Germany, none being manufactured here.

[A list of the names of tanneries, leather merchants, harness makers, and exporters of kid and lamb skins in Messina, Catania, Acireale, Palermo, and Reggio, which accompanied Consul Cheney's report, is filed in the Bureau of Manufactures.]

UNITED KINGDOM.

SUDDEN REVIVAL OF THE BOOT AND SHOE INDUSTRY IN ENGLAND.

Consul Frank W. Mahin, in reporting from Nottingham that the boot and shoe industry at Leicester has enjoyed a great revival so far this year, gives the following details:

All the factories have up to date (March 28) worked overtime and to their utmost capacity to fill orders in hand. It is said that all

calculations have been upset by the sudden placing of exceptionally heavy orders. Overtime work has been usual every spring at those factories, and short time (possibly a resultant) has followed at other seasons. Workmen's unions last year passed resolutions deploring this condition, and asking managers of the trade to do their utmost to equalize employment and output during the whole of the year. But unavoidable circumstances thwarted this purpose and produced more overtime than ever at this season.

The explanation is that last autumn the financial crisis reduced orders to a minimum and half-time in factories became general. The return to normal conditions and usual interest rates caused an unprecedented flood of orders, and the output of boots and shoes is reported to be greater than at any former period. The high pressure, it is expected, will continue two months longer (till the last of May) without a single additional order coming to hand.

It is said that the great bulk of the orders are for ladies' shoes of bright finish in glace kid, varied in many specimens with attractive openwork in the front to show the pattern of the stocking. Also, that American designs in both ladies' and gentlemen's wear have had a stimulating effect, and have led to great improvements in fit, style, and general attractiveness. It is added that dull dressed upper leathers, formerly very much in evidence, have, to a large extent, disappeared, and this spring at least 75 per cent of the uppers of all grades of footwear are of either glace or bright-dressed calf, the soles being light and dainty. It is claimed that in high-grade qualities English footwear is not excelled in style or finish by the most noted French or Austrian productions, and that in the matter of price there is a big margin in favor of the home producer.

CHILE.

NOTEWORTHY GROWTH OF THE SHOE AND LEATHER INDUSTRIES.

The national shoe and leather exposition of 1907, held at Santiago, Chile, according to a leading journal of that city, has served to show that the shoe and leather industries of the Republic are at present in a remarkable condition of progress and perfection. The number of factories participating in the exposition were 23, in which are included shoe factories and tanning establishments. The following figures represent the total production, capital, etc., of those factories:

Annual production of tanned and sole leather, 160,000 pesos (peso=0.365 cent); daily production of boots and shoes, 5,670 pairs; number of workingmen employed in the factories 3,510; total capital invested, 16,490,000 pesos. Besides these there are in the Republic many other shoe and leather factories, the total capital of which is estimated at about 34,000,000 pesos.

With these figures in view an idea may be formed of what the shoe and leather industries of Chile represent, the capital invested being estimated at the minimum amount of 50,000,000 pesos. These two industries promote and give life to several other important ones, such as the preparation of tanning woods, lime, etc., and the manufacture of pasteboard boxes, the total annual production of which industries ranges from 12,000,000 to 15,000,000 pesos.

THE BRITISH PATENT LAW.**AS IT AFFECTS FOREIGN MANUFACTURES IN THE UNITED KINGDOM.**

In the following report on the sections of the new British patent law, which compels foreign holders of patents in the United Kingdom to manufacture therein the products covered by such patents, Consul Frank W. Mahin, of Nottingham, illustrates the effect of the law in particular manufactures by citing American shoe machines and German aniline colors:

The new act provides, in brief, that a foreign patentee must manufacture his invention in this country within three years after the date of the British patent, if there be a demand for it; otherwise his patent can be revoked. It is conceivable that the strict and broad application of this provision would shut out from the United Kingdom every foreign manufactured product which could be made, and which the British preferred should be made, in this country.

Section 24 provides that any person interested may petition the board of trade, alleging that the reasonable requirements of the public have not been satisfied, and praying for the grant of a compulsory license or the revocation of the patent. If the parties do not come to an agreement themselves, and if satisfied that a *prima facie* case has been made out, "the board of trade shall refer the petition to the court." If the allegation is proved to the satisfaction of the court, the patentee may be ordered to grant licenses on such terms as the court deems just, or if licenses will not in the court's opinion satisfy the reasonable public requirements, the patent may be revoked by order of the court.

Another important section (38) makes unlawful any contract prohibiting or restricting the purchaser, lessee, or licensee of a patented article or process from using any article or process supplied or owned by any person other than the seller, lessor, or licensor, or his nominees; or requiring the purchaser, lessee, or licensee to acquire from the seller, lessor, or licensor, or his nominees, any article not protected by the patent.

THE LAW AFFECTS AMERICAN MANUFACTURES.

Some kinds of machinery imported from the United States, and probably from other countries also, have been used here under a lease and could not be bought. Complaint has been made that the lessee is tied to the machine for a period of years, paying heavy royalties, which at the end of the period sometimes amount to the price of the machine; and that under the contract he can not use the machine unless all other machines used by him in doing other parts of the work are also held from the same lessor. On the other hand, it is claimed that the leasing system has been of great advantage in several ways, especially to men beginning business or with limited capital; and that, however burdensome the royalty may be, British manufacturers would not have used the system unless it had paid them. Section 38 is obviously intended to abolish the leasing system by illegalizing its monopoly feature.

A British shoe-machinery company, holding the English rights for certain American machines much used in the boot and shoe

industry, are enlarging their works at Leicester from a recent capacity of some 300 employees to a capacity of about 1,000 as the direct result of the new patents act. Prior thereto, it is explained, the machines in question, being protected by patent in Great Britain, had to be imported from the United States excepting such as were made by the British company the holder of the rights in this country, and that they made few of the machines appears from the statement that their Leicester works were engaged chiefly on fitting and repairs. The present enlargement of the works indicates that they will hereafter make all the machines used here, as the new patents law is understood to require.

A large user of American shoe machinery at Leicester says he does not think it will prevent American patentees from making the various parts of their machines in the United States and putting them together here. He adds that in shoemaking "American machinery is the most up-to-date, efficient, and economical for the purpose." From another authority, hostile to imported machinery, it is learned that certain British manufacturers of shoe machinery of British design are equipped chiefly with American plant for such production. No doubt other and probably the majority of British shoe-machinery works are also thus equipped. So in the application of the new law, the United States is interested not only in shoe machinery but also in the apparatus for making it. How far the law will affect American manufactured products generally is yet conjecturable, and depends upon the wants and the disposition of the British people.

GERMAN MANUFACTURES AFFECTED.

Indications are noted of the stimulating effect of the new law on other machinery works in this country, besides the particular one referred to. A result not expected, it is said, by the promoters of the new law is now manifest. It is announced that two large German firms have bought land in Cheshire whereon to erect factories for the manufacture of aniline. The manufacture of aniline and other dyes declined in Great Britain, it is stated, because Germans held the patents. Now the manufacture is to be resumed here, but by Germans who will, it is feared, use German workmen. Even the realization of this fear would not take away all benefit from the new factories, for they must inevitably use some British labor and products in building and operating and in the sustenance of their employees. It is reported that other foreign firms intend following the example of the Germans.

LOCAL EFFECTS OF THE ACT.

PASSING OFF FOREIGN-MADE GOODS—BRITISH MERCHANTS PROTECTED.

The following information concerning the working of the British merchandise act and the protection afforded the British manufacturer and patentee by the new "Patents and Trade Designs act" is furnished by Consul Albert A. Halstead, of Birmingham:

In a letter written by the chairman of the Birmingham Chamber of Commerce, which was recently published in a local newspaper, objection is made by the British manufacturers and by the Birmingham Chamber of Commerce to that provision of the merchandise marks act of 1887 which requires the country of origin to be indicated on

foreign goods, on the ground that that requirement serves as an advertisement of foreign goods to the disadvantage of British merchants.

The Chamber of Commerce letter is further interesting as indicating the close relation between British chambers of commerce and that branch of the Government which looks after commercial affairs. It read as follows:

Your correspondence columns have furnished evidence lately upon several occasions that the mercantile community do not fully appreciate either the state of the law in regard to fraudulent trading or unfair competition, or the means at their disposal of combating that evil. We desire to offer some observations upon two matters connected with this subject, namely: (a) Fraudulent trading which comes within the purview of the merchandise marks act, and (b) the protection of British manufacturers and patentees afforded by the patents and designs act, 1907.

The title of the act of 1887, "An act to consolidate and amend the law relating to fraudulent marks on merchandise," clearly indicates its general scope. Section 2 (1) provides that every person who (a) forges any trade-mark, or (b) falsely applies to goods any trade-mark or any mark so nearly resembling a trade-mark as to be calculated to deceive, or (c) makes any die, block, machine or other instrument for the purpose of forging or of being used for forging a trade-mark, or (e) disposes of or has in his possession any die, block, machine, or other instrument for the purpose of forging a trade-mark, or (f) causes any of the things above mentioned to be done, shall, subject to the provisions of the act and unless he proves that he acted without intent to defraud, be guilty of an offense and be liable to the severe penalties prescribed.

"PASSING OFF" DESCRIBED.

The offense with which we propose to deal is that of "passing off" foreign goods as British, and it is usually perpetrated by means of a false trade description. The merchandise marks act of 1887 (section 3) defines the expression "trade description" as "any description, statement or other indication, direct or indirect" (inter alia) as to the place or country in which any goods were made or produced, and the use of any figure, word, or mark which, according to the custom of the trade, is commonly taken to be an indication of origin, is to be deemed to be a trade description. A false trade description is defined as "a trade description which is false in a material respect as regards the goods to which it is applied," and includes every alteration of a trade description, whether by way of addition, effacement or otherwise, where that alteration makes the description false in a material respect.

There are other provisions in the act, but those which have been quoted are those which it is necessary to consider in connection with a charge of "passing off" of foreign goods as British to the detriment of a trade or district. It needs to be explained that "passing off" is a fraud which may be perpetrated in a variety of ways. For instance, it is conceivable that the goods themselves and the coverings may be without marks and that a "false trade description" may be applied to some other thing—e. g., a letter or an invoice.

The Birmingham Chamber of Commerce is at the present time dealing with a case where the "passing off" took this particular form in relation to an important commodity for the production of which this district is a world center.

We strongly recommend the trading community and others interested in the welfare of British industry to give their most careful attention to these points, and to consult the chamber of commerce with regard to any case where there appears to be an attempt to mislead the public as to the foreign origin of goods offered or exposed for sale in this country. The whole of the circumstances can then be investigated fully, and if a *prima facie* case can be made out the question of prosecution can be considered.

EFFECTS OF THE NEW PATENTS AND DESIGNS ACT.

One of the functions of the chamber of commerce is to protect British commerce and industry from unfair competition, and in this connection the patents and designs act of 1907, which was passed mainly through the efforts of chambers of commerce, is interesting and its enactment marks a distinct step forward in our commercial legislation.

Under the new act provision is made for the revocation of patents and the cancellation of copyright in designs if the patented article or process is used for manufacture exclusively or mainly outside the Kingdom. The beneficial effect of these provisions is already making itself felt, in regard particularly to patents, by the establishment of factories in this country by foreign patentees who have so far been in the habit of manufacturing abroad.

In a speech he delivered a little while ago at the Manchester Chamber of Commerce the president of the board of trade referred to the initiative taken by the chambers of commerce in connection with the new act, and charged them with the responsibility of seeing that the compulsory working sections are made effective. This again is a responsibility which can only be satisfactorily carried out with the cooperation of the commercial community, and it is probable that the chamber of commerce will very shortly issue a pronouncement on the subject.

HOUSE BUILDING IN CANTON.

CONCRETE AND STEEL—LUMBER PRICES—LABOR AND WAGES.

Vice-Consul-General Hubert G. Baugh furnishes the following information concerning building operations in Canton, China's southern metropolis, and the conditions governing the same:

The extent and growth of construction in concrete and steel in Canton is necessarily limited, owing to the small number of foreigners here, by and for whom almost all this sort of work is done. Three buildings of reenforced concrete are now under construction; also large cement works of structural steel, the later for the provincial government, though being created by Straits Settlements contractors, through a local firm of architects. Chinese building at its present stage offers no field for new methods of work, and it is only in such enterprises as these cement works that recourse may be expected to foreign styles of construction.

These works in themselves are an evidence of the great demand for cement for reenforced concrete construction throughout the Far East. Cement works of Hongkong have almost a monopoly of this business at present, and as nearly all their material comes from Chinese territory these new Government works may be expected to push them for the control of the market. German cement is imported mainly because the local supply is insufficient. However, this increase in the use of reenforced concrete applies only to American and European settlements, the Chinese using brick almost exclusively. Canton has less than 500 foreign residents, but the amount of concrete construction keeps pace, in proportion to the population, with foreign cities.

As in the Far East in general, in Canton the white ant causes an immense amount of destruction, very few buildings, if any, being free from its ravages, and as reenforced concrete can be used in the place of wood in almost every part of a building, it is hoped that it will be the long-looked-for remedy, though it remains yet to be seen whether even it can keep out this pest. Should it prove successful it will undoubtedly rapidly supersede older forms of construction.

SUPPLY OF MATERIALS.

With the exception of steel, almost all the material needed is secured locally or from Hongkong. The steel is furnished by the Trussed Concrete Steel Company of Detroit, proprietors of the Kahn

system of reenforced concrete, which is the system used exclusively here. Cement is furnished by a Hongkong cement works at \$2.50 a barrel, though some also comes from Germany. The rock used in the manufacture of Hongkong cement is obtained from various parts of this province, which possesses an unlimited supply. The Government works now in course of construction will have the advantage over the Hongkong plant of not having to pay the small export duty charged on all limestone taken out of China. Sand of excellent quality is at hand in any quantities desired, costing 15 cents per cubic yard; broken stone is also available in unlimited quantities at \$1.50 per cubic yard, but there is no gravel. Hollow burnt clay tile, such as is in common use in the United States, is not manufactured and has not been used. Lumber costs 3 cents per board foot. China fir is most commonly used, but Oregon pine is imported to some extent. Foreign building material comes in with a 5 per cent ad valorem duty. Shipments from New York take from sixty to eighty days in transit, those from San Francisco and the Pacific coast about half that time. English and German firms import structural steel to the amount of about 400 tons a year.

The matter of exchange has to be considered in all importations, for the rate varies continually. One dollar Mexican is approximately the equivalent of 50 cents gold, but is seldom exactly that. As these variations can not be foretold, an element of risk is present in nearly every purchase.

LABOR AND WAGES—PAYMENTS—BANKS—CREDITS, ETC.

Labor is plentiful and cheap, but careful supervision by foreign overseers about the finer parts of the work is customary. Ordinary laborers are paid about 15 cents a day, carpenters 25, and masons 30 cents. A large part of the carrying, as of excavated earth or of sand, is done by women. The local architectural firm alluded to has nearly all the construction business in Canton, working through Chinese contractors, who supply the workmen as well as the materials for the huge sheds of matting, which are always erected first, to shelter the workmen from sun and rain.

Payments on private work are made as on ordinary contract work in the United States. On Government work there is more or less delay, as the matter must pass through several hands, but with this exception there is no trouble in securing payments. Banking facilities are of the best, as the International Banking Corporation of New York and the French Bank of Indo-China have branches here, while the Hongkong and Shanghai Banking Corporation is represented by a local business house. Credits are investigated through the International Banking Corporation. Payment on materials imported from the United States is usually made by three days' sight drafts. No hindrances of any kind are imposed by the Government.

The municipal council of the foreign settlement has placed a limit of 60 feet on the height of all buildings erected within its borders, but otherwise builders are free to plan as they wish. It is not to be expected that the field for this enterprise in Canton will ever be very large, but it has a good foothold already and will, in all probability, grow in favor wherever foreigners are concerned.

GERMAN COLONIAL PROGRESS.**DEVELOPMENT OF VARIOUS POSSESSIONS IN AFRICA AND EAST INDIES.**

Writing from Tsingtau, Consul Wilbur T. Gracey sends the following notes on recent progress in German colonies, the facts having been gleaned from a German colonial paper:

Exports through the ports of German East Africa have increased 5,500,000 marks (mark=23.8 cents) during the past year, lumber, rice, tobacco, and cotton showing the greatest advance.

In the coffee districts of German East Africa, about Usambara, it was found necessary some years ago to plant trees to protect the coffee trees from the prevalent winds. Mulberries were used for this, and proved well adapted to the climate. They grew well, and a number of companies have now imported cocoons, intending to experiment with silk culture. If the new industry proves a success, a new source of income will be established for the coffee plantations, many of which do not pay now.

With the year ending March, 1907, the Usambara Railway passed from a nonpaying to a paying enterprise; 160,000 passengers paid 84,000 rupees (rupee=32.44 cents) in passage money, 7,500 tons of freight paid 80,000 rupees, 3,000 head of live stock paid 3,700 rupees, and other sources of income such as excess baggage brought the total receipts up to 184,000 rupees. As expenses amounted to only 99,000 rupees, a profit of 85,000 rupees was left. Of the latter amount 50,000 rupees were added to various funds, leaving 35,000 rupees for stockholders.

TWO PIERS DESTROYED BY TEREDOS.

German Southwest Africa has met a rather heavy setback in the total destruction of the two landing piers at Luderitzbucht by teredos. This has resulted in the steamer lines refusing to accept any except light freight not damageable by water. Work is rapidly going forward on new wharf accommodations, and it is hoped that steamers will again soon be able to land.

Surveys are being made on a railway line to Warmbad, in German Southwest Africa. The intention is not to build the line at present, but to gain data for presentation to the Government, with the hope that it will take part in the undertaking.

A great deal of work is being done in Kamerun in the line of wagon-road building, where railroads are impossible at present. All the important towns and plantations are being connected with good highways, much to the benefit of trade. The governor of the colony has recently issued an order, making 6.6 pounds the minimum weight of ivory tusks that can be exported. The minimum was 11 pounds, which merchants claimed was too high. The commercial interests of the district are now trying to get permission to sell the natives flint locks and black powder, but permission to do this has so far been refused.

The seat of the colonial government of German New Guinea is shortly to be moved from Herbertshoehe to Simpsonhafen. The reason is that the port at the former place was bad, while the latter is very good. As a result, shipping went there and the old place has lost its importance.

UTILIZATION OF WRACK.

SEAWEED AS A CHEMICAL PRODUCER AND FERTILIZER.

In answer to many inquiries touching the use of certain classes of seaweeds cast up on the southern coast of England in the manufacture of iodine and as fertilizers, Consul Albert Swalm, of Southampton, furnishes the following information:

From inquiries made along the south coast of England of persons supposed to know all about the matter I learn that no use is made of the "sea-wrack," as it is called, commonly, save as a fertilizer, applied without any chemical preparation, or no more than that given to ordinary stable manure. Old-time farm leases reserved all this wrack as part of the general property, to be used as might be directed, but it could not be sold away from the farm, and as long as there was any it could be claimed by the tenant in a pro rata distribution.

MANUFACTURE OF IODINE FROM SEAWEED.

All inquiries were made on the supposition that at the present time use was made of the wrack in the production of iodine, the inquiries leading to the Channel Islands, where the manufacture was at one time carried on. On the English coast it never was used in ash production for chemical purposes, but it was and is still used as a valuable fertilizer, as top dressing on certain soils, or cut up and plowed under in the lighter soils, with a continuing benefit for several years.

A retired officer of the United States Navy, who spent some time on the Channel Islands, secured the following data from the files of the chief analyst of the island of Jersey:

The seaweeds most frequently thrown up on the Atlantic coast, botanically classed as "*Fucus vesiculosus*" (bladder wrack) and "*Fucus nodosus*" (knobbed wrack), are found here, coming in the track of the Gulf Stream across the Atlantic. Up to about 1885 the English makers used an average of 7,600 tons of dry wrack in the making of iodine, it then having a commercial value of \$4 per pound, but the great reduction works in the Chilean nitrate beds soon brought the price down so that the use of the dry wrack was found unprofitable and that industry ended. A British scientist says:

UTILIZATION OF SEAWEED.

In Jersey, seaweed, or "vraic," is only used as a fertilizer, and it is applied either fresh or dried, being scattered as a top dressing over the grass to sweeten the pasturage, or worked into the ground for potato culture. It is valuable for the nitrogen and potash it contains, and also acts mechanically by attracting moisture, an advantage on light, open soils, but a decided disadvantage on cold, heavy land.

To prevent waste and exhaustion, the collection of seaweed (other than drift-weed cast up by the storms) is regulated by law in Jersey, and it can only be cut on certain dates twice a year, which are fixed periodically by the royal court of the island, after consulting with the parish authorities concerned.

The average composition of the kinds chiefly met with here have been worked out by me and show as follows, after having been dried at 212 degrees. Weeds cut in March: Organic matter, 81.4; ash, 18.6; nitrogen, 1.91; potash, 2.62; phosphoric acid, 0.36; lime, 1.3; magnesia, 1.06; oxide of iron, 1.04; sulphuric acid, 3.96; chlorine, 2.5; silica, 0.53; carbonic acid, 0.39; less oxygen replaced by chlorine, 0.55. [This makes a percentage of 115.67, but it is as quoted by the consul.—B. of M.]

There is not much seaweed burned at the present time, and vraic ashes are now difficult to obtain. At one time poor cottagers by the sea used the dried

seaweed as a fuel, and also burned *vraic* in order to sell the ashes as a fertilizer, but as all the nitrogen was thereby lost this was somewhat wasteful.

Burning for iodine manufacture in Jersey never, to my knowledge, went beyond the experimental stage. A small factory was started about ten years ago and lasted two years, during which period it turned out between 250 and 300 pounds of iodine per annum, made at first from Irish ashes—kelp—and later from some specially burned "*colley*" (*Laminaria*) gathered in St. Quens Bay, Jersey. I visited the factory at the time and have still some of the iodine. The proprietor tells me that he got as much as 12 shillings and 6 pence (\$3.04) per pound for the iodine. He also obtained from 2 to 3 tons of potash salts as a by-product, which he used as an ingredient in the manufacture of potato fertilizer. Unfortunately, the venture did not prove profitable.

I also understand that about two years ago a quantity of *vraic* was burned here and a cargo of the ashes sent to Scotland as an experiment, but it is believed that the freight was prohibitive.

The fact is that the only seaweed profitable for the manufacture of iodine is that known as *colley*, or sea-tangle (*Laminaria digitala*, *sternophylla*, and *saccharina*), three varieties differing slightly in the shape of the leaf, but all with long, fleshy fronds, often 4 to 6 feet in length, which grow at a depth of about 30 feet below high-water level, and are cast ashore after storms. These yield about 8 to 12 pounds of iodine to the ton of dry wrack. All the other varieties fall below this yield.

The price of iodine is now about 9 shillings (\$2.75) per pound, wholesale, and is (or was) controlled by agreement between the larger producers, the nitrate companies having the chief voice in the matter.

A leading Scotch maker of iodine tried hard to turn to account the other products of seaweed, notably "*algin*," a most interesting body, and which he put to many uses, but I have not heard that the outcome was financially successful.

On the whole the question of seaweed utilization presents many difficulties, and the competition of the nitrate companies has rendered iodine manufacture from seaweeds speculative in the extreme.

AFRICAN WHALING ENTERPRISE.

NORWEGIANS WILL ESTABLISH OPERATIONS AT PORT OF DURBAN.

Consul Edwin S. Cunningham, of Durban, advises that a company, with head offices at Sandefjord, Norway, has recently been formed, with the object of exploiting the whaling grounds adjacent to the South African coast, particularly that of Natal. The consul details the plans as follows:

There is to be a station of the company at Durban, where a plant for extracting oil and bone will be established. The method to be pursued will be the same that has been adopted with success in Norway, and the men engaged in the work will be Norwegians who have had experience in the industry. Briefly, the plan is to use two small whaling steamers which have been acquired by the company, and, making Durban the base of operations, to scour the coastwise waters, and as soon as a whale is taken, to tow the body into the harbor, where the work of extraction will be done. By this means, it is said that a saving of time is effected, and the process of reduction is facilitated.

It is claimed that these steam whalers are able to take all kinds of whales with comparative immunity from risk, as the explosive harpoon is fired directly from the steamer, and the danger of pursuing the "*fish*" in small boats is obviated. There are large numbers of whales near this coast, and there seems to be a fair prospect of success for a small company run on the most economical lines. The capital of the company is \$75,000, and shares to the full amount have been taken in Natal and Norway.

LAUNDRIES IN BUENOS AIRES.

OUTLOOK FOR THE INTRODUCTION OF NEW AMERICAN BUSINESS.

In reply to an inquiry from an Ohio manufacturer of laundry machinery as to the condition of the laundry business in Buenos Aires, Consul-General Alban G. Snyder furnishes the following information:

The population of Buenos Aires numbers 1,200,000, of which about 80 per cent is foreign, consisting of Italians, Spanish, French, English, German, Swiss, etc., in the order named, the Italians forming about 60 per cent of the foreign population, although in the last year Spanish immigration has far exceeded all others.

There are five railroads entering the Argentine capital, all operating sleeping and dining cars. About 3,000 ships, more or less, enter and clear during a year, remaining in port from four to thirty days, although this time is very irregular; mail steamers usually lie in port about five to seven days.

The city contains 20 large hotels, of over 50 bedrooms each, while there are numbers of smaller hotels of all classes and sizes.

The water of the river is good, but is far too expensive, and where large quantities of water are needed wells are usually drilled. Steam coal costs from 30 to 35 shillings (\$7.30 to \$8.52) a ton, Cardiff being generally used. Male help is paid \$1.50 to \$5 Argentine paper (66 cents to \$2.20 gold) a day, female from \$1 to \$2.50 (44 cents to \$1.10 gold) a day. The supply of unskilled labor is adequate.

Real estate and rents are high at present, and it would be almost impossible to secure any suitable location for a laundry in the center of the city; one would have to go to the suburbs, and even there real estate is high. The value of real estate varies so much that it is impossible to give any idea of prices, but most transactions in this line are affected through auctions.

LAUNDRY PRICES, TAXES, AND LAUNDRY WORK.

The prices paid by railroads and hotels at the present time for laundry work are \$2.40 Argentina paper (\$1.04 gold) per 100 pieces, and this work is done by the several steam laundries already established, of which there are five, while two more are in course of construction by Americans.

Taxes for this class of business vary between \$200, \$500, and \$1,000 Argentine paper (\$88, \$220, and \$440 gold) a year, according to the amount of business done. There is no possibility of securing a concession from the national or municipal authorities for exclusive privileges in connection with the laundry business.

All hand laundries collect and deliver work to the customers. The work done by the hand laundries is generally considered poor, and the acids used for cleaning are injurious to the clothes. None of the steam laundries cater to private families, and a well-established one of this class ought to do well.

Outside of Buenos Aires, there are five cities in Argentina with a population of 50,000 or over, viz: Tucuman, 50,000; Bahia Blanca, 60,000; Cordoba, 65,000; La Plata, 80,000; Rosario, 135,000.

PAPER FROM BAGASSE.

GREAT RESULTS CLAIMED FOR A TRINIDAD INVENTION.

Consul-General Richard Guenther, of Frankfort, furnishes the following information, published in a German journal, concerning the invention of a Trinidad planter for the manufacture of paper from sugar-cane bagasse:

For a long time the bagasse had been experimented with in order to make cellulose out of it for paper manufacturing, but without success. It is now reported that a Trinidad sugar planter has, after several years of experiments, arrived at the conclusion that a superior article of paper can be made from the bagasse of sugar cane, as also of the bagasse of other plants of that district. It is stated that he has erected paper works in connection with his sugar factory at an expense of \$85,000.

The bagasse, after having been three times ground and pressed in sugar presses, is carried, automatically, to the paper mill and is there treated by a process of the inventor. It is then boiled for several hours, passed through rotating millstones, put into the usual machines for manufacturing paper pulp, and afterwards cut up under hydraulic pressure.

The inventor claims that 84 per cent of the bagasse is transformed into paper pulp, and he believes that his invention will revolutionize the cane-sugar industry, as it would be remunerative to plant sugar cane primarily for making paper, with the sugar as a by-product. Sugar making would again become very remunerative, as bagasse, for fuel, had approximately a value of only about \$1.80 per ton.

The cost of paper production by this process is said to be very low, as the surplus steam of the sugar mills can be utilized. The value of the paper made from the bagasse is estimated to be \$24 per ton. During the time that no sugar is made the paper mill is kept running by using other materials found in the district for paper making, banana bagasse, paragrass bagasse, and that of other fibers.

SWISS TRADE COMBINATIONS.

GOVERNMENTAL RESTRICTION OF MONOPOLIES AND TRADE AGREEMENTS.

Consul R. E. Mansfield, writing from Lucerne, says that in Switzerland the trust, or trade combination, through which prices of the products of certain manufactories and articles controlled by corporations possessing large capital are manipulated to the prejudice of small concerns competing in the business are practically unknown. The consul continues:

In the Confederation commerce is conducted on purely competitive lines and discrimination against the small concern, with limited capital and employing only a few hands, is not indulged in by more powerful competitors, commission houses, and purchasing agents. The great industrial prosperity and productive capacity of Switzerland is due largely to the fact that hundreds of small manufactories,

many of them employing only a few hands and operating under very primitive methods, are running in all parts of the country. Their existence depends upon fair and open competition in the markets, and the employment of comparatively cheap labor.

The unfair practices resorted to in some countries, of large concerns reducing prices on certain articles to ruinously low figures thereby forcing less favored competitors out of the trade, and then increasing the price of their products to a point which enables them to quickly cover the loss sustained by the reduction, is not known in Switzerland.

Agreements or combinations for the regulation and maintenance of prices of certain commercial commodities are limited to the merchants. Uniformity, or fixed prices, may be arranged, but agreements to discriminate against or to prohibit the sale of any article is not permitted by law.

Under this rule of uniform treatment and open competition there are an unusual number of industrial institutions and commercial concerns with small capital doing a profitable business and contributing largely to the material progress and general prosperity of the country. Added to this is the universal industry and characteristic economy of the Swiss people, which has enabled them to build up and maintain, under naturally unfavorable conditions, an international trade amounting to considerably over \$300,000,000 annually.

How long these favorable trade conditions will continue is difficult to predict. In the past few years the cost of living in Switzerland has increased to such an extent that wages of both artisans and laborers have advanced very materially, which fact for a time tends to affect adversely the business of the small producer much more in proportion than that of the large manufacturers who employ more modern methods in the business.

SALT PRODUCTION.

CHINA.

MANUFACTURE, CONSUMPTION, REVENUE FROM TAX, PRICE, ETC.

The following information concerning salt production and consumption in China is furnished by Consul Wilbur T. Gracey, of Tsingtau, who states that the statistics were secured mainly from a German Government report:

Salt in China is produced from salt wells and sea water by boiling and evaporation. The evaporated is granular and is not considered of as good quality as that obtained by the process of boiling. The annual consumption of salt in China is estimated at 1,512,000 metric tons.

The salt tax is exclusively a Government monopoly. All the salt produced must be sold either to the Government or to licensed merchants, who purchase the right to supply certain areas of consumption. These merchants receive salt certificates, empowering them to buy and sell certain quantities of salt. The salt tax, as fixed in 1905, is 1 tael per picul (71.6 cents per 133½ pounds).

The salt tax is considered one of the principal revenues of the Empire, and it is estimated that it amounts to 13,500,000 haikwan

taels (about \$9,000,000) per annum, to which, according to some authorities, should be added salt land tax, salt head tax, salt land rent, and the salt pan tax.

The retail price of salt varies in the different parts of the Empire, but averages from 25 to 60 cash per catty (1.6 to 3.8 cents per 1½ pounds). The importation of salt into China is prohibited by treaty.

TURKS ISLANDS.

VALUE OF THE INDUSTRY—EXPORTS TO THE UNITED STATES.

According to statistics supplied by Consul J. A. Howells, the salt exports for the Turks and Caicos islands during the calendar year 1907 amounted to 1,420,052 bushels, valued at \$76,527, of which 1,073,702 bushels, valued at \$53,535, were exported to the United States, the balance going to Canada, Jamaica, Haiti, Santo Domingo, St. Pierre, and Bermuda. On account of the unusual rains in February and March, and the usual rains expected in May, it is thought that no salt can be raked in 1908 before June. The stock on hand is estimated at between 500,000 and 600,000 bushels.

ALCOHOL FROM PEAT.

CONVERTING FACTORIES BEING ESTABLISHED IN NORTHERN EUROPE.

Writing from Mannheim, Consul Samuel H. Shank says that the large deposits of peat in America which have hitherto been of practically no value may prove to be of great worth if the recent experiments of a French chemist in distilling alcohol from peat prove to be practical. He describes the progress made:

The first industrial trials for manufacturing alcohol from peat date from the year 1870, when the Danish chemist Zetterlund hydrated and converted by means of sulphuric acid the cellulose of the peat into a soluble carbohydrate, which was fermented by letting it stand. The very small production obtained in the beginning was increased by different chemists, including Lagerheim, Trestadius, and Eckardsström.

Important progress has been made in the last two years by Raynaud, by fermenting the carbohydrate sap by means of a special yeast, which has hitherto been kept secret. A Copenhagen company has been founded, which already has two experimental plants established, one in Denmark and the other in France. The results obtained are said to be so encouraging that the erection of an industrial plant in the north of Germany is imminent. According to statements made by Professor Ramsay, one ton of dry peat is said to furnish about 162 liters (liter=1.05 quarts) pure spirits and about 66 pounds of sulphate of ammonia of 100 per cent.

The Danish company asserts that the manufacturing costs of 1 liter of alcohol of 97 per cent are at most 11 pfennigs (2.6 cents), whereas the cost of the process of distilling from potatoes is about 38 to 42 pfennigs (9 to 10 cents). It is self-evident that such a process would be of the greatest interest, not only from an agricultural standpoint, but especially for new uses in the chemical industry and as a cheap material for lighting and power.

LABOR WORLD.

LAWS AFFECTING WORKMEN.

UNITED KINGDOM.

BRITISH EMPLOYERS ADAPT THEMSELVES TO NEW ACCIDENT LAW.

Consul Maxwell Blake reports from Dunfermline that, although it is early to judge the value of the "workman's compensation act," which became a law in Great Britain last July, its operations to date discloses much of speculative interest, which he reviews briefly:

It is stated that a year ago insurance companies issued millions of advertising circulars to the alarmed householders of the Kingdom, offering to them protective policies against the almost innumerable accidents and injuries to which their domestic servants were exposed in the ordinary course of their employments; for all of which, under the act of July, 1907, the employer henceforth was to become responsible.

It was a new kind of risk for the insurance companies, and at first great disparity of rates prevailed, as well as an indifference on the part of the older companies to write this kind of insurance; an attitude which they were soon forced to reverse, in order to protect themselves in other lines.

When this act became a law, the result was a rush on the part of the applicants, and although there were more than 60 companies actively soliciting the field, business became so heavy that many of the companies were actually unable to issue policies fast enough, resulting in some cases in a delay of several months between the date of application and the delivery of the policy.

This congestion however has now abated; competition is keener, and rates have been lowered to a practical uniformity. Following are the rates (in American currency) per annum for policies providing full and complete indemnity in respect of all legal liability:

Classes.	Legal liability.	Ex- tended policy.*	Classes.	Legal liability.	Ex- tended policy.*
Indoor servants, per person.....	\$0.68	\$1.22	Gamekeepers.....	\$2.43	\$3.65
Gardeners.....	1.22	1.82	Chauffeurs.....	4.87	7.80
Coachmen and grooms.....	1.82	2.43			

* The term "extended policy" includes additional benefits which are designed especially to meet the requirements of householders who recognize a moral obligation to their servants in addition to that imposed by statute. It covers disabilities arising from typhus or scarlet fevers, typhoid, smallpox, measles, diphtheria, pneumonia, pleurisy, erysipelas, and for carbuncle. Allowance for medical expenses is also made for any of the specified diseases.

These rates cover all accidents incident to the occupations named. Upon the present showing, it is presumed that there will be a profit in this kind of risk, but it is very unlikely to ever compare with the remunerations of other kinds of insurance. For the first six weeks

under this law, one company reported 186 claims, including "two fatals." The claims so far have been for such trivial injuries as slight burns, splinters in the hand, finger cuts, sprained wrists and ankles, all of which, if obviously bona fide, are promptly settled.

The companies realize that there is a temptation to collusion on the part of the householder, and therefore possibility for the practice of deception, but they can protect each other to such an extent that this is only possible to a very limited extent.

EMPLOYERS' LIABILITY.

In the event of an accident to a servant arising out of and in the course of employment, the employer may be liable for the following compensation: Fatal accidents—Three years' wages, with a maximum of £300 (\$1,460) if dependents are left. Nonfatal accidents—Half wages up to £1 (\$4.86) per week during incapacity, or for life if the incapacity is permanent.

Under the provisions of the same act all employers of labor, manual as well as clerical, are liable to pay compensation in respect of any accident to an employee arising out of or in the course of his or her employment.

For clerks, typists, and others engaged in clerical work, the employer is liable, in the event of death by accident, to three years' earnings up to £300, but not less than £150 (\$730), if the deceased leaves anyone totally dependent upon him or her; during total disablement by accident, if under 21 years of age, full wages up to 10 shillings (\$2.43) per week; if over 21 years of age, half wages up to 20 shillings per week. In the event of the injury being permanent, the foregoing compensation would be paid for the whole term of life. The rate of premium for the above is 3 shillings 6 pence (85 cents) per £100 (\$486.65) on total annual wages and salaries.

CANADA.

LEGISLATION LOOKING TOWARD THE ADJUSTMENT OF LABOR PROBLEMS.

Consul-General William Harrison Bradley, of Montreal, furnishes the following statistics concerning trade disputes in Canada and the effect of the new industrial investigation law in their peaceful settlement, prepared by Vice-Consul-General Gorman:

During the year 1906-7 there were 139 trade disputes in Canada, 5 more than in the preceding year, and 35 more than in 1904-5. Nearly one-half of the strikes occurred in Ontario. The question of wages entered into 82 disputes, and the reorganization of the union contributed 13 cases. Fifty disputes ended in favor of the employers, 41 in favor of the employees, and 32 were compromised. In 5 cases the strikes were partly successful.

The most important legislation enacted during the year affecting industrial and labor conditions was the industrial disputes investigation act, which became law on March 22, 1907. A feature of the new act is its provision that before a strike or lockout can be legally declared in a dispute between employer and employees, in connection with a mine or any industry connected with a public utility, it shall be submitted to a board of conciliation and investigation, established under the act with a view to arriving at a settlement. The act demands an investigation before the declaration of a strike in the

class of industries stated, in order that the parties to the differences may be brought together, and a degree of conference and discussion secured.

ADVANCE NOTICES REQUIRED—SETTLEMENT OF DISPUTES.

Further provisions of the act require that employers and employees shall give at least 30 days' notice of an intended change affecting conditions of employment with respect to wages or hours, and that pending proceedings before a board the relation to each other of the parties to the dispute shall remain unchanged, and neither party shall do anything tending to bring about a lockout or a strike. Penalties are provided for infringement of the provisions of the act.

Two other important features of the act are those which provide that the statute may be made applicable to disputes other than those relating to mines or public utilities when the parties concerned in such disputes may so desire, and the one which provides for making obligatory and binding the award of the board with regard to any dispute referred to it.

The board of conciliation and investigation as established under the act will consist of three members, two appointed by the minister of labor, on the recommendation of the respective parties to the difference, and the third appointed on the recommendation of the two first appointed. If these fail to agree within five days on a recommendation to the minister of labor the third member is appointed by the minister himself; the third member to be the chairman of the board.

The application forwarded to the minister of labor asking for the establishment of a board must mention the nature and cause of the dispute, an approximate estimate of the number of persons affected, and the efforts made by the parties to adjust their dispute. The application must also be accompanied by "a statutory declaration, setting forth that failing an adjustment of the dispute, and a reference thereof by the minister to a board of conciliation and investigation under the act, to the best of the knowledge and belief of the declarant a lockout or strike, as the case may be, will be declared, and that the necessary authority to declare such lockout or strike has been obtained." The board has power to summon and enforce the attendance of witnesses, administer oaths, and to do all that is necessary to secure a full investigation.

From March 22, 1907, the date of the passage of the act, to February 15, 1908, of the 30 applications for proceeding under the act 28 strikes were averted or ended.

ITALY.

NEW LAW GOVERNING THE EMPLOYMENT OF WOMEN AND CHILDREN.

Consul James E. Dunning, of Milan, transmits a translation of the revised law governing the employment of women and children in Italy, promulgated on January 16, 1908, which is on file in the Bureau of Manufactures. The salient provisions of this law are as follows:

Persons of either sex under 12 years may not be admitted to industrial establishments, workrooms, building operations, outside

work of any kind, or to mines and tunnels. For admission to labor in mines and tunnels the age must be 13 full years when mechanical traction is employed, and full 14 years when mechanical traction is not employed, and females of all ages are forbidden to labor of this nature. Females of less than 21 full years will not be admitted to dangerous labor of any kind.

Persons of either sex of from 12 to 15 full years may not be employed in any labor more than eleven hours a day, nor can females of any age be employed for more than twelve hours a day.

The labor of women and children must be interrupted daily by one or several periods of repose. Children and minor women may never continue longer than 6 hours without interruption. The law provides that employers shall take such measures, in the workrooms, eating rooms, dormitories, etc., as will safeguard the health and morals of children, and females of any age. Night work is forbidden for all females and for males of less than 15 full years.

BRITISH RAILWAY EMPLOYEES.

WAGES PAID, WORKING HOURS, AND LABOR SYSTEM WELL CLASSIFIED.

Consul Albert W. Swalm, of Southampton, has gathered from various sources in England data on railway employees and wages paid in the United Kingdom, which he presents as follows:

A report on the number of railway employees in England, with the amount of wages paid by classes, just published by the Amalgamated Society of Railway Servants, is the first complete one of the kind that has yet been issued. It was prepared by the secretary from reports called for last August, and may be accepted as correct. The report covers, for the United Kingdom, no less than 259,280 railway employees, who are always called in England, by law and usage, "railway servants." The fact is shown that over 100,000 of these are working at a wage of £1, or \$4.86 per week, and are given in three several wage groups as follows:

Group.	England and Wales.	Scotland.	Ireland.	United Kingdom.
\$4.86 and under	81,300	12,960	6,650	100,910
\$5.10 to \$7.29	113,780	13,410	1,640	128,810
\$7.35 and over	26,610	2,320	810	29,540
Total	221,690	28,690	8,900	259,280

SMALL PAY FOR WORKMEN.

These figures indicate that more than one-half of the railway employees of the United Kingdom receive £1 to £1 10s., or \$4.86 to \$7.29 per week. It also appears that only about 11 per cent receive more than \$7.50 per week. In these classifications it should be borne in mind that the classes known as station masters, inspectors, clerks, laborers, and mechanics in shops are not included, they not being under the care of the Amalgamated Society. If the pay of these several classes of railway workers were considered it would bring the general average up to \$6.17, which figures are quoted by the Board of Trade as correct for 1906. In this calculation the amount paid for

all overtime is taken into general wage account, which, under the rules governing railway labor, makes a considerable amount. This being deducted the general average of wage is about \$5.75 per week for all and every class of labor employed in railway operation and maintenance. The classes not included by the Amalgamated Society number approximately 320,000, and on the basis afforded by its report the wage division shows 134,000 employees receiving \$5 or less; 107,000, \$5 to \$7.50, and 78,000, \$7.50 and over.

The Amalgamated Society deals almost exclusively with the men engaged in the traffic department of the railways, and its secretary asserts, in view of the figures before him, that fully 40 per cent of that class receive \$5 or less per week as the standard weekly wage. Anything in addition is through overtime, that for the lower grades being small, save in the class of trackmen or "plate layers."

The time schedules differ somewhat in the several countries. Thus, this return shows that in England and Wales nearly all the grades of labor are rated at ten hours per day, except servants about passenger stations, who work twelve hours, but no more. The signalmen (switchmen under the American classification) are on duty an average of nine hours, it having been found most profitable to lighten the tax on body and mind on this class of labor, because of its immense responsibility. Trainmen have nothing whatever to do with entering a switch, except in case of accident, and even then they are practically shut out. Each class is confined to its own duties, with the responsibility fixed beyond all cavil.

LONG HOURS FOR MANY EMPLOYEES.

In Scotland the general rule is twelve hours per day, with a few excepted classes who work at or close to stations. In Ireland there seems to be about an equal division into the ten and twelve hour classes. Few "runs" in the United Kingdom call for much extension in any class of railway labor beyond the ten or twelve hours except through accidental delay beyond ordinary control. Substantially, taking all grades of railway labor, the work may be thus outlined: In Scotland over half the men are rated at twelve hours; not quite half in Ireland; while taking the United Kingdom as a whole one-fourth work twelve hours per day, two-thirds ten hours, while there remain only about 7 per cent who are given the standard eight-hour day. About 60 per cent of the workers are paid standard time for extra time, and where there is a difference allowed it seldom exceeds time and a quarter in the best classes. England and Wales lead by far in extra pay for overtime above the scale. In Sunday work the increase is quite often time and a half, but it is also a fact that fully one-half of the Sunday workers do not receive anything extra for work on that day.

There is a permanency about railway labor, depending upon practical efficiency, which has a great advantage for the worker and which develops in several ways, as time goes on, to his personal benefit. The law promptly fixes the measures of damage that may be claimed for a crippling accident, thus saving any legal expense, the matter being all duly and most practically arranged for the injured employee. Thus he is looked after in several ways not experienced by the worker in the United States. These factors all have their bearing on the wage problem. Comparison of the wages here given with

those paid in the United States for the same grade of work will not be without interest to the student of such problems.

The figures here given are tabulated from the returns of nearly all the railway corporations operating in the United Kingdom, about thirty in all, and may be relied on as correct. Wages are given by the week.

GUARDS OR TRAIN CONDUCTORS.

The guard is one who takes the place of the American conductor on American trains, but the system of train operation is widely different. An English railway guard stands practically in the same position as the chief brakeman on an American passenger train, with considerable added authority, for he signals the train into action and does all that may or would be required of a conductor. He never collects tickets, for that is done either at the passing gate at the end of the journey or by the proper official just before reaching the main station, if the passage is to any great center. Guards practically have a life position as long as they do their duty under the multiplicity of rules governing them, and as a class are the most careful and obliging with which the traveling public comes into contact.

Taking twenty-three roads, the wages paid to guards present these results: First year, per week, \$5.25, increasing at an average rate of 24 cents per week for the succeeding years; so that at the end of the twenty-first year the employee may receive as much as \$8.12 per week. The general weekly wage average of passenger guards for the United Kingdom in 1907 was \$6.50. In addition, however, there is a lodging allowance when away from home of 25 to 60 cents per day, according to the locality and period of absence. The regulation of one leading company reads:

Day expenses, when on duty away from home, 25 cents; day expenses, including lodging for one night, 60 cents; maximum possible for one week (never paid above) \$3.75.

Hours of labor must average ten hours per day, with the time allowances as given for engine men of both classes.

The wages for goods guards—conductors of freight trains, in the American definition—start in, on promotion from brakemen, at \$6.25 per week, with a rise of 25 cents per week, and allowances for lodging and meals when absent from home, but always on a limited scale. The average weekly wage for the United Kingdom is \$6.64.

BRAKEMEN, SWITCH AND SIGNAL MEN, TICKET MEN, AND PORTERS.

Wages of brakemen are \$5.25 to \$5.75 per week for the first class, or those who have just been promoted from switchmen; and \$5.75 to \$7 for the second class, while the maximum pay is reached only after years of service by the advance of 35 cents per week per year. Ten hours per day, or sixty per week, is the rule in England and Wales, and twelve in Scotland. Overtime is paid only at the average rate, with half time additional added for Sunday.

The wages of switchmen per week do not vary much from the brakeman class, but for the United Kingdom they are \$6.04 per week; ten hours per day; overtime, one and a quarter, and Sundays, one and a half.

Signalmen are in first, second, and third classes. The weekly pay for sixty hours of the third class is from \$5.25 to \$5.75, the increase being by 25 cents per week per year; the second class receives \$6 for

a 48-hour week; the first and special class rate, from \$6.25 to \$7 per week of forty-eight hours. Promotions are made from class to class as vacancies occur. In addition to wages, some of the roads pay a bonus to signalmen ranging from \$5 to \$25 or \$30, according to wages received. This bonus affects the whole class of signalmen, and is in the nature of a recognition of good service rendered.

Ticket collectors receive an average weekly wage for the United Kingdom of \$5.36; sixty hours per week; no overtime allowance.

The average wage per week for railway porters in the United Kingdom is \$4.36, but there is a rising scale for time service, which never exceeds \$5.75 per week. This class is largely benefited by "tips" and "Christmas boxes." Quarter time is given for overtime and Sunday work.

The average wage paid to carriage cleaners in the United Kingdom is \$4.58 on a ten-hour basis.

ENGINE DRIVERS, FIREMEN, AND CLEANERS.

Engine drivers start in at \$8.25 per week. After one year, with no failure on the man's part, he is given an increase of 75 cents per week, and he may get this annual increase for seven years, until the maximum of \$11.68 is reached. This includes drivers on express trains of first class. The average weekly wage of this expert class of workers in the United Kingdom is \$9.68, with ten hours per day. There is an allowance of time and a quarter for overtime, but the full sixty hours for the week must be completed before any overtime is credited. Engine drivers are usually divided into four classes.

Firemen are generally started in at not above \$5 per week, with sixty hours' labor required per week. They are also grouped in four classes, with the average scale of weekly wage as follows:

First class, \$6.50, increasing to.....	\$6. 86
Second class, \$5.60, increasing to.....	6. 15
Third class, \$5.35, increasing to.....	5. 60
Pilot class, \$4.50, increasing to.....	5. 25

The highest advance per week of this class is 36 cents in the years following the first. Much depends upon efficiency, as a record is kept of coal consumption and compared with miles run, in which both the driver and fireman figure. The weekly average for the United Kingdom is \$6 per week of sixty hours; overtime in the week, after the sixty hours, is one and a quarter time; Sunday, time and a half.

Engine cleaning is one of the few classes of railway labor in which boys are employed, although it is not by any means confined to boys. The minimum age at which boys are employed is 14 years, with a weekly wage running between \$1.75 and \$3. Where a lad starts in above this age the increase in wage is made possible by from 36 to 48 cents per week. In some companies cleaners, after the requisite probation and approval of work done, are put on piece-work, and they receive from 60 to 90 cents per engine, the money paid varying with the size and type of engine cleaned. All overtime is at the regular rate, but time and a quarter is given for Sundays, except in Scotland, where it is time and a half. This occupation is the first step toward gaining the much-desired post of engine driver. Sixty hours a week is required from all weekly scale workers.

GOODS STAFF AND TRACKMEN.

The goods staff may be defined as the station freight handling crew, and there are five different classifications to be named. The wages are the average for the United Kingdom, per week; time of sixty hours; quarter time for all overtime and Sundays; carmen, \$5.36; checkers, \$6.12; leaders, \$5.32; porters, \$4.84; miscellaneous staff, "extras," \$5.36.

Trackmen are known as "gangers" and "plate layers." They have charge of the roadbed, and are grouped in four different classes. The list includes what are known in the United States as "section foremen," and the wages per week are \$5.25 in the fourth class, to \$6.25 in the first class. After the first year's service the advance in wages is never more than 25 cents per week in the year.

The plate layers—the men who handle the rails and its belongings—receive a better rate on many of the roads, which varies from a quarter to half time above the ordinary rate of wage. In some cases these special workers are required to provide their own tools—for reasons best known to the management—explained to me as a check against carelessness in the loss of tools.

Compared with other grades of railway labor this class has preferential treatment, especially in the matter of overtime, which in some cases is granted on the double basis, and especially so for all-night work, from 10 p. m. to 6 a. m., but generally extra half time is the rule. Inclement weather and all the accidents of railway operation affect this portion of the wage question. This class is also given a benefit as to time, the summer rule per week being fifty-six and one-half hours, and fifty and one-half hours in winter. The arrangement in summer is ten hours for five days, ending with a half-holiday on Saturday; in winter it is a nine-hour day and the Saturday half-holiday. Not all the railways are on this method, but the great majority of the men employed are considered in this class.

INSPECTORS, LINESMEN, AND MISCELLANEOUS.

There is a general and very rigid inspection made, both of the roadway and of all running material, on all roads, and for this purpose a considerable staff of inspectors or examiners is kept up by all companies. The average wage for this service per week for the United Kingdom is \$6.12, though some companies pay more. An average of sixty hours per week is the rule, with overtime at quarter rate. Sunday is on the regular time basis.

The important grade of signal fitters and linesmen, who belong to the class of machine-shop workers, generally work under specially favored conditions. The signal system on all the English railways is most thorough, and it receives a watchful care day and night. The average wages paid per week in the United Kingdom works out at \$5.75 to \$7.50 per week, owing to the length of time served. The workmen have a fifty-six-hour week, with overtime at one-fourth extra for week days and half time extra for Sundays.

It is not possible to make any special observations as to the great number reported under the heading of "miscellaneous labor." This comprises a varied class, such as boys, cooks, scullions, greasers, etc. The average weekly wage received by them in the United Kingdom works out at \$5.18 for sixty hours per week, with no allowance for overtime or Sunday work.

EMIGRATION OF LABORERS.

GERMANY.

LARGEST NUMBER START FOR UNITED STATES—IMMIGRATION STATISTICS.

According to the statistics recently published by the German Statistical Bureau, and quoted by Consul-General Hugh Pitcairn, of Hamburg, 389,995 persons emigrated from German ports during the year 1907, of whom 363,615 were aliens and 26,380 were German subjects. The consul-general further summarizes:

These figures show that, compared with those for the previous year, 1906, there was only a slight increase in the German emigration (906 persons), whereas considerably more aliens left for extra-European countries, such increase amounting to 37,625 persons. Besides the German subjects emigrating from German ports, 5,316 German emigrants embarked at ports other than German, among whom there were 3,313 at Antwerp and 1,770 at Rotterdam and Amsterdam.

The total number of Germans emigrating from this country was 31,696 in 1907, compared with 31,074 in 1906, of whom over 2,000 each came from the Provinces of Posen, Brandenburg (including the city of Berlin), and Hanover and the Kingdom of Bavaria; over 1,000 each from the Kingdom of Saxony, the Rhine Province, the Provinces of Westphalia, West Prussia, and Schleswig-Holstein, the Kingdom of Wurttemberg and the Grand Duchy of Baden.

According to their occupation, 10,920 of the Germans emigrating in 1907 were farmers and farm laborers, 10,235 had formerly been occupied in mining and industrial, and 4,046 in commercial trading establishments. Of the alien emigrants who left Germany via German ports, 119,352 came from Russia, 112,788 from Hungary, and 110,444 from Austria. The destination of the largest majority of these, and also of said German emigrants, was the United States, to which country 30,431 Germans and 346,871 foreigners emigrated from German ports.

During the year 1907 217,812 persons arrived by sea at German ports from extra-European countries, of whom 151,084 came from North America, 6,059 from South America, 11,222 (including 6,996 German troops) from Africa, 796 from Asia, and 498 from Australia.

JAPAN.

PROPOSED ESTABLISHMENT OF KOREAN COLONIZATION COMPANY.

Consul Wilbur T. Gracey, of Tsingtau, quotes the statement from a newspaper published in China that a bill is to be introduced in the Japanese Diet for the establishment of the Japan-Korea Colonial Company. The concern is to have a capital of \$5,000,000 gold, with power to issue debentures to ten times that amount.

The shares will be issued only to Japanese and Koreans, and the directorate will be appointed by the Japanese Government. The Government will grant the sum of \$150,000 gold annually to the company until it is able to earn a dividend of 8 per cent per annum. The principal object of the company will be to send Japanese peasantry to Korea to cooperate with the natives in the development of agriculture in the peninsula.

CANADA.**ENTRY PROHIBITED OF IMMIGRANTS AIDED BY PUBLIC CHARITY.**

Consul-General William Harrison Bradley, of Montreal, advises that an order-in-council has just been passed, which prohibits, on and after April 15, the landing in Canada of any person whose passage has been paid, wholly or in part, by any charitable organization out of public moneys, unless it is shown that the authority in writing of the assistant superintendent of immigration for Canada has been obtained for the immigration of such persons, and been acted on within sixty days.

BRITISH FATAL ACCIDENTS.**NUMBER OF DEATHS FROM CASUALTIES AMONG INDUSTRIAL WORKERS.**

Consul-General Robert J. Wynne quotes a London journal as saying that the number of deaths from industrial accidents in the United Kingdom reported in the year 1907 was 4,460, an increase of 341 over the year 1906 and of 277 on the average for the five years 1903-1907. With the exception of quarrying, each group of occupations shows an increase as compared with 1906. These increases were most marked in the shipping and mining groups, the fatalities in these having been 1,363 and 1,273, respectively. In railway employment 487 were killed.

TEXTILES.

SILK MANUFACTURES.

FRANCE.

TRANSFORMATION OF WEAVING INDUSTRY FROM HAND TO POWER LOOMS.

Consul John C. Covert furnishes a translation of a paper entitled "The transformation of weaving in Lyon," recently read at a meeting in that French city by the secretary of the Silk Manufacturers Association, covering the changes in the industry since 1819, from which the following extracts are taken:

The silk industry of Lyon may be classed in three divisions, which operate independently of each other: (1) The manufacturer, who buys the raw material and prepares it for weaving by dyeing or otherwise, has it woven and sells the merchandise; (2) the master weaver, who has the silk woven on hand or steam looms; (3) the dyer and printer, who dyes or prints in the thread or in the piece and delivers the goods to the manufacturer.

During many years these three divisions of manufacture were concentrated in Lyon. Gradually a large part of the hand-loom work passed into the country, this change being caused by the erection of silk mills worked by steam. Hand looms have been distributed in seven neighboring departments. The manufacturer remains in Lyon where the finishing of the silk is done.

In 1888 there were in Lyon 34 silk mills belonging to manufacturers, and 154 belonging to men who worked for silk merchants. To-day there are 36,000 power looms in Lyon, many of which belong to workingmen. To these must be added from 55,000 to 60,000 looms scattered over the country in the neighborhood of Lyon, making nearly 100,000 looms in the district, outside the large silk mills.

EFFORTS TO PROVIDE EMPLOYMENT.

The great object the silk interests of Lyon have been aiming at is to give steady employment to the men and women of Lyon, who have been thrown out of work in the city by the introduction of looms into farm houses and the erection of large silk mills worked by steam or electricity.

In 1881 a number of citizens organized a company for the purpose of furnishing the hand weavers with power looms to be run by steam, a contract being entered into that the weavers should pay a small sum per month for the new apparatus. For various reasons this society dissolved after five years of intelligent and conscientious effort.

In abandoning the project the society expressed the opinion that the purpose it had in view might yet be accomplished, that the causes of failure were not without remedy, and the hope that the hand

loom might, in the course of time, be replaced by a power loom worked in the weaver's family.

One reason for the failure of the introduction of power looms was the aversion of the weavers to abandon the old process. They insisted that the material made by steam was inferior to that made by hand, and some of the large dealers encouraged this opinion. The failure of the experiment seemed fatal to the industry of the weaver. He was compelled to return to the hand loom. Several new, large steam mills were started, and more looms than ever were distributed throughout the country.

NEW PLAN ADOPTED.

By this time the use of electricity had become so common that it was thought possible to furnish the journeyman weaver with a motor power cheaper than steam. A company was organized for this purpose. The weavers had been out of work so long that they cheerfully accepted any plan that offered relief. The men at the head of the movement contracted with users of electricity for their surplus power and obtained the right from the city authorities to run wires into a quarter of the city called the Croix Rousse, the traditional home of the silk weavers.

A contract was made with the weavers that they should pay 10 per cent of their earnings for the new machinery, and electricity was soon employed in throwing, dividing, weaving, and all the work of producing silk. The great electrical works of Lyon furnished electricity for one loom at 75 francs (\$14.48) per year, representing a fraction less than 5 cents per day of ten hours. In 1901 there were 500 looms worked by electricity on the Croix Rousse hilltop in Lyon. The silk mill was installed in the family beside the kitchen and bedroom.

As it was known that the weaver lost a great deal of time in going to his employer's store, a telephone was placed in an office convenient to all the weavers that they might communicate with their employers without loss of time.

FAMILY WEAVERS—WORKINGMAN'S CITY PROPOSED.

After an experience of four years the promoters of the new movement reported that a weaver could do as much work on the power loom placed in his apartment as was done on the average loom in a large factory; that power looms were worked in all the rooms of many five and six story buildings without any complaint from landlords or inconvenience to anyone.

The results thus far reached have demonstrated that in spite of the establishment of large mills, where silk is made on a hundred or more power looms, men and women can pursue their work, as of old, in their families without being at the mercy of great aggregations of capital. It is better understood than ever before that the interests of capital and labor can be united and made to work together. The great silk merchants who a few years ago furnished looms to farmers, and whose principal aim was to get their work done, have combined in an effort to furnish steady employment and to prevent the surplus production by factory looms from depriving any part of the people of work.

A movement is on foot to build a workingman's city upon the Croix Rousse hilltop, where labor will have cheap rents and all the

advantages that accrue from great combinations of capital. It has been demonstrated that the important advantage of power looms can be utilized by the individual families. It is now desired to bring back the looms from the country to the city in order that the people of the city may enjoy steady work, and that the silk industry for which Lyon is famous may enjoy the benefit of the technical knowledge that several generations of work have given to the Lyonnese weavers.

SILK THREAD MARKET.

EXCELLENT MARKET FOR AMERICAN EMBROIDERY AND SEWING SILKS.

Consul Louis Goldschmidt, of Nantes, advises that there seems to be an excellent market in France for American embroidery silks and sewing silks. He gives the following trade particulars:

Although France has been for centuries, and is to-day, in the lead in the manufacture of silk textiles, the market and sale of embroidery silks and sewing silks has not nearly the importance which it occupies in the United States. There are to be found in all the larger, and to a certain extent in the smaller cities, numerous small stores where women's needlework and the material for such are on sale, but the assortment of embroidery silks to be found at such places is very limited, and to one accustomed to the elaborate manner in which such business is done in the United States it seems that the methods here could be much improved.

French women are usually adepts at some kind of needlework, and wonderful specimens of this art are to be seen, particularly when one considers the lack of the proper material to be found on sale, and they would be the first to appreciate a proper assortment of colors and shades which would enable them to produce still more beautiful work.

Another feature which enters into this is that the embroidery silks which are to be found here are not generally washable, and consequently can not be used (except in some shades) on white washable material. This latter point is, in my opinion, the main reason for considering that American embroidery silks can be sold here.

The price of the American article is probably slightly higher than the French article, but if an effort were made by the manufacturers of the United States to show by demonstration the superiority of their silks, excellent results could be obtained.

SEWING SILKS—SALES METHODS.

To a smaller extent sewing silks might be sold here. Sewing silks are usually sold in skeins, and the assortments to be found on sale are also limited in the scale of colors. In the remotest places there is no such thing as the usual display cabinet found in American stores where the sewing silks are properly shown up. Such as are to be found here are usually kept in bundles and tied up each time after a sale is made. Some few silks are sold on spools, which are usually sold only to dressmakers.

Some people may be surprised to learn that American silks could be sold in France in opposition to French goods, but the manufacturer who has enough enterprise to attempt to capture this market, and who goes about it in a proper manner will undoubtedly succeed not only in France but in many other European countries.

It will be entirely useless to attempt to do any business by correspondence and by catalogues. It will require able men who can demonstrate the superiority of the American silks, and who can sell either to the retailer direct or select some few responsible wholesale concerns who could act as distributors. According to the French tariff the import duties on dyed sewing silks in France are 600 francs (\$115.80) in the general tariff and 300 francs (\$57.90) in the minimum tariff per 100 kilos (220.46 pounds). Imports from the United States pay the rate under the general tariff. The duty on slightly twisted silk for embroidery is 300 francs per 100 kilos, both in the general and minimum tariffs.

Catalogues and color cards, if sent to this consulate will be placed on file for future reference.

[Lists of wholesale and retail mercers, and of retail dealers in women's needlework at Nantes, forwarded by the consul, can be obtained from the Bureau of Manufactures.]

MEXICO.

IMPORTS AT CIUDAD JUAREZ—COMPLAINTS AGAINST AMERICAN GOODS.

Consul Thomas D. Edwards, of Ciudad Juarez, writes that the annual importation of all silk goods into that consular district, as estimated by the local merchants, is about \$60,000. He continues:

The kinds and sources of the imports are given as follows: Spool and embroidery silk—the United States; manufactured silk goods—France, Germany and Japan; silk underwear, hosiery, knit goods, and some piece goods—Germany; shawls, ties, ribbons and the greater portion of the piece goods—France; handkerchiefs and silk-embroidered goods—Japan. The "rebozo," a small shawl of various colors and patterns, often heavily fringed, worn over the head by women of all classes, is an important article in the silk trade.

The duty on spool silk and embroidery silk is \$6.60, Mexican money, per kilo (kilo = 2.2 pounds); manufactured goods of pure silk, \$17.50 per kilo; and manufactured goods of silk mixed with cotton or wool, \$8.25 per kilo.

Complaints against American silk manufacturers are that they produce wholly for a home trade and wish to dispose of the overflow here, regardless of the peculiar needs of the country resulting from its climate and customs. The manufacturers of other countries, on the other hand, make for Mexico what is wanted here. Another source of complaint is that American purchases come packed in boxes of soft lumber of an inferior quality, often only one-half inch in thickness; whereas, the foreign boxes are of inch timber of good quality, generally strapped with iron, and provided with an oil-paper lining.

ITALY.

GENERAL TRADE IN THE VARIOUS PRODUCTS SHOWS AN INCREASE.

Consul James E. Dunning, of Milan, supplies the following statistics of the silk trade of Italy for the first ten months of 1907:

The imports aggregated in value \$32,376,130, a gain over the 1906 period of \$2,822,969. The largest importations were \$12,431,091 of

Asiatic raw silk, \$7,967,561, of dried cocoons, and \$4,604,980 of European raw silk. Italy's silk exportations for the first ten months of 1907 amounted to \$98,567,322, an advance of \$13,938,554 over the 1906 period. The exports of European raw silk reached \$45,227,311; of raw silk, doubled and twisted, \$29,287,364; of plush, \$10,757,717; of dyed goods, \$2,699,482; of waste, \$2,698,570; of spun silk, \$3,732,466; of mixed textiles, \$1,466,748; and of silk ribbons and cord, \$1,053,915.

FLAX PRODUCTION.

ST. HELENA.

HOW TO SECURE A SUCCESSFUL START IN THE INDUSTRY.

The following report has been prepared by Consul Robert P. Pooley, of Jamestown, St. Helena, for the information of those who might be interested in the establishment of the phormium (New Zealand flax) industry in the United States:

For a successful start in the phormium industry the services of a New Zealand expert should be secured. Plants should be raised from suckers, planted 6 feet apart, 1,250 to the acre, clear of trees. Plants grown under trees look as good as others, but the fiber is weak. Plenty of sun is necessary. The plants must be fenced against cattle and goats, but sheep do not eat the leaves. Growing from seed is a tedious process, as the young seedlings, being very delicate, require constant care lest they be soon destroyed by grubs.

It is hardly possible to calculate the acreage under phormium in St. Helena. With the exception of about 300 acres planted with suckers in the last two years the plants in the island have existed for the last thirty years. There are probably sufficient mature leaves to supply the government mill, which consumes from 90 to 100 tons monthly, for three or four years, the object being to make this available supply last until the suckers put down last year are fit for reaping. Leaves, under favorable conditions, are ready for reaping four years from the planting of the suckers. In three and one-half years there will be sufficient phormium in St. Helena to supply three mills.

A 15-acre drying and bleaching grass field adjoining the mill is necessary. About 35,000 gallons of water, running through the mill, are used daily, as thorough washing, drying, and bleaching are essential to obtain good fiber. [Further details of the St. Helena government mill machinery equipment are contained in the report, which may be consulted at the Bureau of Manufactures.]

BELGIUM.

CONFERENCE OF MANUFACTURERS OVER BUSINESS CRISIS.

Consul W. P. Atwell advises that in the general assembly of the Association of Flax Spinners and Weavers in East and West Flanders, which was held in Ghent on March 14, the present crisis in this industry was the principle subject of discussion, which he reviews as follows:

It was agreed that these industries, considered as the most important in East and West Flanders, are now experiencing a state

of affairs looked upon as being one of the most critical ever gone through. Business has almost come to a standstill. The principal cause is attributed to the recent financial crisis in the United States, as orders from America are exceedingly scarce, and orders previously placed are being canceled. Nearly all the mills are working on short time, with a view to decreasing production and the accumulation of stocks. It is already foreseen that if the present situation does not change in a short time the greater number of the mills will be obliged to shut down.

An important factor in the condition of these industries is the increase of salary of 10 per cent which was given to the workmen last year, when conditions in these industries were exceedingly flourishing and profits large. Efforts are now being made to decrease wages 10 per cent.

COTTON INDUSTRY.

JAPAN.

CHINESE MARKET CHANGES AFFECT YARN MILLS IN OSAKA DISTRICT.

Vice-Consul Walter Gassett, in the following report from Kobe, dated March 4, reviews the cotton-yarn market in the Far East, and the Japanese manufacturers' efforts to tide over the trade depression:

Since the spring of 1907 silver, which by way of reaction from a violent temporary appreciation had entered a gradually downward grade, toward the end of the year began to fall lower and lower, owing to the failure of the crops in India and to the suspension of purchases of the white metal by the government of that country.

The consequence has been that Japanese trade with China has been very adversely affected, more especially in the exports of yarn, which are now nearly at a standstill. The sale of yarn in Japan has also fallen off since the beginning of the year, and if the depression should continue, the effect will soon be felt in a decreased importation of American cotton to Japan.

While the present depression in yarn export is chiefly due to the decline in silver, in some measure it may be due also to the activity of Indian yarn now found on the Chinese market.

The cost of the production of yarn based upon the present market value of raw cotton, taking the value of the mixed cotton used for a bale at \$52.50 United States gold, is calculated at about \$62.50 for 20 counts good grade, including spinning expenses, while the price per bale in the Osaka yarn exchange is at present only \$58.50 good and \$54.75 medium grade.

SALE PRICES LESS THAN COST.

The Shanghai yarn market at present stands at 95 taels for 20 counts medium, or about \$56.85 United States gold, and when the freight (50 cents), insurance (15 cents), and customs duty, etc. (\$2.50), \$3.15 in all, are deducted, the price realized is \$53.70, or a loss of about \$1.05 per bale on shipments.

The season for the import of raw cotton is now at its height, and with the godowns of spinning mills full of yarn there is no room for the raw material. The bonded warehouses of Kobe are congested

with this form of merchandise, and new importations now rapidly arriving have to be sent on to Osaka for storage.

At the present rates spinning companies are making no profit and are possibly incurring loss. Moreover, in view of the generally unfavorable financial situation, bankers are hesitating to make advances on bills. In these circumstances spinning companies are reduced to a trying position, and it is believed that reserves may have to be called upon to pay dividends. Unless a marked change in the situation occurs within the next few months, the dividends paid by spinning companies will show a heavy decline, those that were able to pay a dividend of 30 per cent last year not being expected to pay more than 10 to 15 per cent this year.

METHODS FOR RELIEF.

In the endeavor to relieve the yarn market, the Japan Cotton Spinning Association, finding that the restriction of output has no effect, now proposes that the cotton spinning companies should encourage export by granting a bounty or bonus on all yarn exported. This proposal has been approved by the committee of the association, and their first idea was that purchasers of Japanese yarn in Shanghai should be entitled to tickets according to the amount of their purchases, the possession of which would enable them to participate in a lottery for money prizes. Payment of the prizes in money having been objected to, however, by the Shanghai consular body, the association has decided to award them in yarn.

The drawings are to take place every second month in Shanghai, and the prizes offered will amount to \$50,000, divided into 2,243 prizes of various sizes, from the first of \$10,000 down to \$10. The money for this scheme is to be raised by a fund subscribed among spinning mills. The agreement is that each mill in the association which produces coarse yarn valued at 20 counts and above shall contribute 25 cents toward the prize fund on each bale produced and 12½ cents more on each bale exported. This scheme is to be put in force for one year.

MOROCCO.

NONPARTICIPATION OF AMERICAN COTTON GOODS MANUFACTURERS.

Consul-General Hoffman Philip, of Tangier, states that in view of the continued nonparticipation of American manufacturers in the extensive and growing cotton-goods trade of Morocco, in which he sees no reason why they should not compete to great advantage, it seems desirable that exporters be furnished with certain detailed information which might be difficult for them individually to secure. He says further:

This consulate-general has frequently called attention, by means of public reports and answers to commercial inquiries, to the value of Morocco as a field for the development of an American trade in cotton goods. This trade constitutes probably the most valuable and unchangeable branch of commercial imports of this country; but up to the present little real attention has been given to the matter by American firms.

Vice-Consul-General G. E. Holt, of this place, has prepared the following statement on the sale of English cottons, together with a

number of samples of cotton goods largely sold in Morocco, with detailed information as to prices, etc., which would seem to furnish information of an advantageous nature to American exporters:

As an aid to any American exporter who desires to attempt competition with English cotton-goods exporters, who alone annually sell \$4,000,000 worth of goods in Morocco, there are forwarded herewith a number of samples of English goods such as are generally and largely sold in the Moroccan market, together with details as to their widths, lengths, and cost. [These may be secured from the Bureau of Manufactures.] Terms allowed on these goods are 6 months' time with interest at 5 per cent from day of shipment; purchaser pays freight, which amounts to 3 to 3½ per cent of invoices. In case of variation in price of goods from the preceding invoice, the change is noted on the accompanying statement, this sometimes resulting in a debit and sometimes a credit. A Tangier merchant of good standing is allowed to carry a \$2,000 credit on this basis with a leading Manchester cotton-goods firm.

CHINA.

EFFORTS TO EXTEND COTTON CULTURE IN THE PROVINCE OF CHIHLI.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following information from a local newspaper regarding the Government interest in the cotton industry in China:

A court order sent to the Viceroy of Chihli Province commands all viceroys and governors to encourage the people to cultivate cotton. "The demand for cotton goods and yarn increases year by year in China," says the order, "and large quantities have to be imported. There are several provinces in which cotton can be grown well, and the Board of Agriculture and Commerce has been directed to dispatch officials to the United States and other countries to study the weaving industry and draw up regulations for the cultivation of cotton in all districts where it can be advantageously grown.

"The Comptroller-General of Customs has also been directed to draft regulations granting native-grown cotton special privileges in transit, so as to encourage the home industry. This industry is of the utmost importance to Chinese interests, and viceroys and governors must induce the Chinese to promote companies and further the cotton industry in every way." The Viceroy of Chihli has directed the officials to make a detailed report of all cotton grown in Pelyang, stating in what manner they believe the cultivation might be improved.

ARGENTINA.

COMBINATION OF LOCAL FACTORIES—CROP STATISTICS.

According to the French consul at Buenos Aires the three small cotton manufacturing companies of Argentina have combined as the Sociedad Hilanderias Argentinas de Algodon, capitalized at about \$875,000. This concern uses native cotton entirely, the consumption having been 400 tons per year, but the contracts for the present year call for an increase. The 1907 crop of cotton in Argentina is given as 7,000 metric tons, equal to about 3,300 bales of 500 pounds each. The total area in cotton culture is 4,644 hectares (11,475 acres), chiefly distributed as follows: Chaco, 3,280 hectares; Formosa, 111; Misiones, 68; Corrientes, 495; Santa Fe, 275; Catamarca, 22; and La Rioja, 215. The cotton seed of the Chaco district is sold to the Colonelli cotton factory, which is the only one equipped for the manufacture of oil.

BRITISH LINEN TRADE.

IRELAND.

YARN MANUFACTURERS AGREE UPON A MINIMUM LIST OF PRICES.

Consul Samuel S. Knabenshue writes from Belfast under date of April 2 that an agreement has just been reached among the linen spinning firms of Ireland, whereby they pledge themselves not to sell below these minimum prices:

Ordinary line wefts, 5s. (\$1.22) per bundle; ordinary tow wefts, 6s. (\$1.46) per bundle. This agreement is to remain in force until December 31 next. It has been signed by firms representing 800,000 spindles, out of a total of about 910,000 in Ireland, while several firms which declined to bind themselves by signature are understood to be in entire harmony with the agreement, and will act accordingly. The top prices for yarns, before the decline set in last fall, were 7s. 3d. (\$1.76) per bundle for line wefts, and 8s. (\$1.95) for tow wefts.

It is stated that this agreement was entered into primarily to protect dealers, who have heavy stocks of yarns on hand, or contracted for at considerably higher figures than the minimum prices now fixed. As it is, they will lose heavily on stocks already purchased, and it is hoped this arrangement will prevent still heavier losses. It is deemed inevitable that there must be a considerable fall in prices, and this agreement is simply to substitute a gradual decline for a threatened sudden slump.

SCOTLAND.

MANUFACTURERS ARE EXPERIENCING A SERIOUS TRADE DECLINE.

Reporting from Dunfermline Consul Maxwell Blake says that it is questionable whether the quarterly statistics have ever shown such a large falling off in exports to the United States from that Scotch district as during the three months ended March 31, 1908, the total decrease in exports of linens alone amounting to nearly \$200,000. The consul's particulars follow:

This depression is due to a combination of local industrial, no less than the foreign financially unsettled conditions prevailing throughout the United States, where perhaps fully two-thirds of the total output of this district is consumed.

The spinners of Ireland, in an effort to check the recent slump in the yarn market a short time ago, combined to maintain fixed prices until December 31, 1908, but this does not seem to be a quieting economic experiment, as, while contracts may be written at the prices fixed by the spinners, the buyer feels himself without assurance that a rebate may not be given, varying according to the actual fluctuation of the price of yarn at the time of contract, to all those who later may be fortunate enough to have the advantage of the market on their side on the day of purchase. Thus the combination, so far at least, is ineffective, and does not seem likely to produce the results anticipated.

Most of the yarn now being delivered to local manufacturers was contracted for during last year when there was a widespread fear

that the spinning power of the Irish mills would prove inadequate to the demand created by the speculative tendencies of some of the merchant class who handle the yarns, and thus, as a result, prices went soaring. Coexistent with the late financial troubles, when speculative credit was everywhere impaired, the yarn market suddenly collapsed, taking such a downward tendency within the short space of a few weeks that the same quality of yarn that sold three months ago for 7s. to 7s. 6d. (\$1.70 to \$1.82) per bundle, can now be purchased as low as 4s. 6d. (\$1.09) per bundle.

FACTORY LOSSES—ORDER CANCELLATIONS—THE OUTLOOK.

This means that the manufacturers who contracted at these top prices are losing 3s. (73 cents) on every bundle of yarn delivered, as well as losses on stock on hand of from 20 to 30 per cent. Eight out of the 10 factories in this district are already working on forty hours per week instead of the regular fifty-five hours, while not more than 6,000 out of a total of 10,000 looms are in operation.

American buyers, on account of a slack home demand, as well as because of anxiety over the disturbed condition of the yarn market, are placing no new orders, and in some cases, although I am glad to say it is not general, they are even attempting to cancel orders placed during last year, about which there is much bitter complaint, as the manufacturer was then purchasing materials, sometimes against his own wishes, simply to meet the demands of his customer.

The declining tendency of wet-spun yarns is said in some quarters to hamper the business in the fine damask fabrics, as the dry-spun yarns have several times shown a tendency to recover, but the whole market is weak to the point of even further depression, and, as the price of wet and dry spun yarns have always been interdependent, the whole market is bound to go up or down together. At the present time there appear no local indications of improvement in the situation, as practically everything must depend upon the activity of the American buyer, who now not only has his home market to consider, but the additional responsibilities of a fluctuating yarn market.

TURKS ISLANDS HEMP.

OUTPUT OF THE INDUSTRY—EXPORTS TO THE UNITED STATES.

Consul J. A. Howells reports that the drought of 1907 reduced the output of sisal hemp in Turks Islands, West Indies, fully one-third. The amount exported to the United States was 390,107 pounds, worth \$27,593, in 1905; 356,721 pounds, worth \$24,769, in 1906; and 213,119 pounds, worth \$14,587, in 1907. The exports to the United Kingdom amounted to \$651 and \$2,207 in 1905 and 1906, respectively.

METALS AND MINERALS.

THE WORLD'S MINES.

BOLIVIA.

RICH TIN AND COPPER FIELDS—MARKET FOR MACHINERY AND EXPLOSIVES.

Special Agent Charles M. Pepper, writing from Oruro, Bolivia, on March 2, tells of the development of mining in that country and of the outlook both for the products of the mines and for the sale of machinery, as follows:

Bolivian purchases of mining machinery depend on the development of the tin, silver, copper, and gold mines about in the order named. The introduction of modern machinery is likely to be the sequel of the railway building which is now going on, since this will reduce freight charges and make accessible regions that heretofore have worked the mines after the old methods and with limited means on account of the high cost of transportation.

The tin mines are likely to furnish the best market. The Bolivian production for 1907 was approximately 16,000 tons of pure tin, slightly less than for the previous year. Substantially all the shipments are in the form of barilla or concentrates. These are calculated on the basis of an average of 60 per cent of pure metal in the ton of concentrates, and the Government export tax is levied on that basis.

EFFECTS OF PRICE FLUCTUATIONS ON THE INDUSTRY.

The average price for 1907 was £97 (English) (\$472) for the concentrates, or £173 (\$841.90) for the metal. The values are fixed according to the London quotations for the Malay Straits product. When the price soared to £200, or \$973.30 per ton, all the Bolivian mines were active and many new ones were opened up in the expectation that the boom would continue. The drop in the price of the metal naturally caused most of the new enterprises to be suspended, while a large number of the small mines also shut down temporarily. These were mines employing from 80 to 100 workmen and possessing only the crudest facilities. The majority of the larger mines were able to keep going by averaging up the high profits of the preceding two years, but in view of the general depression it is not likely that Bolivia this year will come within 20 or 25 per cent of its tin production during 1906 and 1907. There is agreement in the opinion that with the London quotations averaging £140 per long ton, or \$681.31, practically all the Bolivian mines can be operated profitably. Many of them, however, can continue their output at £130 (\$632.64), though there is some reluctance to make this admission. [The London quotations in April were above £140 per ton.—B. of M.]

INCREASED PRODUCTION—LITTLE SMELTING.

When it is recalled that in 1900 Bolivia was producing only 6,000 tons of tin as against 16,000 tons in 1907, some measure may be had of the future development and the market for machinery that will be opened up. The bulk of the output is in the departments of Oruro and Potosi, all of which is shipped over the railway line to Antofagasta on the coast. The Huayani-Potosi and the Milluni and other mines in the La Paz district have about 8 per cent of the production, which is shipped by Lake Titicaca and Mollendo.

A few of the richest mines, notably those in the neighborhood of Oruro, where the tin exists in combination with the silver, employ a crude smelting process and are able to ship the tin in bars, but generally the very high cost of fuel and other conditions make the shipment of the concentrates cheaper than to undertake the smelting of the ore, so that manufacturers can depend on the demand in the future being along the same lines as at present. Up to this time most of the stamps and tables for the concentrators and other machinery have been imported from Europe. Perhaps the chief reason for this is that until quite recently there have been no American interests in Bolivia. English, Chilean, and German ownership of the tin mines has obtained and the purchases have been made largely through London and Hamburg. The head offices of some of the largest mines, though owned by Bolivians and Chileans, are in London.

GERMAN MINING MACHINERY UNSATISFACTORY.

Germany has sold large quantities of mining machinery because it had control of Bolivian commerce in all lines. These sales were not due to superior quality or to cheapness. It is almost the universal testimony that German installation for the tin mines has been unsatisfactory. One large mine owner told me that he would like to throw out the German installation entirely, but that neither he nor other mine owners could afford to "scrap" their machinery by wholesale, and they would have to continue working along and gradually replacing the German machines with those from America. His initial purchases in the United States had been satisfactory. However, some preference is shown for the English make as being more solid. There is the possibility of a sharp competition between England, the United States, and Germany, the German agents promising to supply better material, such as that from the Krupp Works at Essen. The works at Creusot, France, also have local representatives, but they are not represented by actual installations in many of the mines. In the laboratories for metallurgical work the chemists and mining engineers give the preference to France. One reason is because the French packing is almost perfect. Laboratory supplies from the United States usually come smashed to pieces.

UNITED STATES INVESTORS WILLING TO BUY.

During the last two years various mining experts from the United States have made investigations of the Bolivian tin deposits and of the mines in operation. It is quite well understood that the tin-plate interests of Pittsburg and elsewhere would like to secure control of the output of some of the leading mines, but nothing seems to have been accomplished in this direction yet. Other American interests,

some of them with rather limited capital, have undertaken the development of tin mines on their own account. One of these was compelled to suspend operations in October on account of the financial crisis in the United States. However, the bulk of its machinery, all of which was bought in the United States, had been shipped, and that which had not reached the mines is now stored at Lake Titicaca. The suspension of development operations by this company is not likely to be more than temporary. Another company, composed of Pennsylvania capitalists, has continued operations. The local representative of this enterprise told me that a recent purchase of 220 tons of machinery was made in England, though he would have preferred buying it in the United States. But his experience with bad packing by American manufacturers had combined with other causes to give the order to the English mills.

The American capitalists who are building the Bolivian railways have also mining concessions, but it is not understood to be their intention to have the railway company engage in tin mining or other mining. It is more likely that some of them will invest in the mining business as individuals, while the policy of the railway company will also be to encourage other companies or individuals to engage in mining in order to furnish the railroad with freight. Out of this policy there is likely to grow a number of American mining interests, which will buy machinery in the United States, provided the objections as to bad packing are removed. It may be taken as certain that, while there is no boom in prospect, Bolivian tin mines during the next few years are going to be developed on a scale which will call for large quantities of machinery.

SILVER AND COPPER MINING.

The increase in silver mining is dependent on the railway line from Oruro to Potosi, which now seems assured, since the American and the English interests are harmonizing their differences. Potosi is the most extensive silver-mining region of Bolivia, but the lack of transportation facilities has made it impossible to introduce new machinery, and without this, and the application of modern processes, it has been shown that the Potosi mines, with a few exceptions, can not be worked satisfactorily. The Huanchaca mines, near Uyuni, which for many years were among the most profitable in South America, are in full operation and are supplied with modern machinery. Recently the resumption of dividends, which were suspended when the mines were flooded some years ago, was declared.

The output of the Corocoro copper mines is not expected to be seriously diminished on account of the fall in the price of that metal, since most of those in operation were able to continue in spite of the depression. New development, however, was halted. The Corocoro fields are agreed by experts to be very rich, but their development on a large scale has not been attempted heretofore because the efforts to combine them have failed. Promoters from the United States at various times have obtained options on these mines, but have not secured the capital necessary to take up the options. The capitalists in the United States whom they have approached have invariably declared the price too high. It is possible, however, that in time the negotiation will succeed and the exploitation of the Corocoro copper be

undertaken on a large scale, insuring heavy purchases of machinery. At present the disposition is to await the building of the railway line from Arica, which will insure a short railway route to the coast and effect an important saving in freights.

THE OUTLOOK FOR MACHINERY—EXPLOSIVES BOUGHT IN EUROPE.

There is not much prospect of immediate sales of dredging machinery for Bolivian gold mines. Several years ago dredges were installed in the San Juan River bed in the south. The cost of the installation was very high, since the machinery had to be transported by mules for 200 miles over difficult mountain passes. Now, the railway, which extends from Buenos Aires to the border of Bolivia, removes this difficulty, but the dredging itself has not been successful enough to encourage further importations of machinery. In the Tipuani River region in northern Bolivia gold is abundant, but the transportation of dredging machinery is entirely impracticable, and the Tipuani is likely to be left to the primitive methods of placer mining.

A point which should have attention in connection with mining machinery is the large quantity of explosives which are consumed in Bolivia. These are procured almost entirely from Europe, Germany having the lead. It is not very flattering for American manufacturers of explosives to learn that the bad name they were given some years ago by one company which dumped a lot of inferior dynamite on the South American market has not yet been overcome.

In concluding this brief report I would state that Bolivian mining resources, both from the point of view of the manufacturers of machinery and from that of capitalists, are worthy of the most careful investigation, for the country is one of the world's greatest mineral regions. Until railway communication could be obtained many of the districts, notwithstanding the richness of their deposits, could not be expected to command capital because of the prohibitive cost of transportation both for machinery and for ores. That difficulty is now being removed, and with the extension of the railway system a continuous mining development may be looked for.

AUSTRALIA.

LARGE YIELD OF VALUABLE METALS IN TASMANIA FOR THE PAST YEAR.

Mr. John R. Carter, secretary of the American Embassy at London, forwards the following statement of the secretary for mines at Hobart, showing the quantity and value of mineral products for the Australian State of Tasmania during the calendar year 1907 (£1=\$4.86):

Mineral.	Quantity.	Value.	Mineral.	Quantity.	Value.
Gold ^a.....ozs..	65,354.252	£277,607	Iron ore.....tons..	3,000	£1,150
Silver-lead.....tons..	89,762½	572,560	Coal.....do....	58,891	50,057
Blister copper ^b.....do....	8,247	882,691	Wolfram.....do....	40½	4,411
Copper and copper ore, tons.....	788½	36,975	Bismuth.....cwt..	3½	27
Tin ore.....tons..	4,342½	501,681	Total.....		2,277,159

^a Fine gold, including gold contained in blister copper and silver-lead bullion.
^b Value of gold contents deducted.

AUSTRALIAN KEROSENE SHALE.

PREPARATION BEING MADE TO WORK THE NEW SOUTH WALES DEPOSITS.

Consul Orlando H. Baker, of Sydney, reporting on the efforts now being made to work the shale deposits of New South Wales, says that their inaccessibility has heretofore rendered such efforts unprofitable:

The deposit of kerosene shale, about 120 miles west of Sydney, is said to be the largest in the world. There is a stream called the Wolgan River, in the valley of which, and adjoining which, most of these deposits are found. They are estimated to cover 41 square miles; depth of seam varying from a few inches to 6 feet. The richest shale is at the Joaja mine, 77 miles from Sydney, said to yield 130 gallons of crude oil per ton, or 15,400 cubic feet of gas, with an illuminating power of 48 sperm candles. Some of this shale has averaged as high as 160 gallons of crude oil per ton.

A company recently formed has erected plant and works and built a railway to connect the shale fields with the Western Line, thereby opening up a large tract of country. Besides shale, there are valuable deposits of coal, clay, and ironstone on the company's ground. The land is well timbered, and should in the future attract a considerable population.

GAS AND OIL SHALE—DEVELOPMENT PLANS.

The shale occurs in layers of two qualities—the first and richer is used for gas making, while oil is extracted from the second. The primary object of the company is the conversion of this retorting quality of shale into oil, and the refining of its other products. Scotch shale yields by distillation, at the most, about 30 gallons of oil a ton, while about two-thirds of its weight consists of residual mineral matter. As a result of careful tests and analyses, it has been found that Wolgan shale contains only 15 to 30 per cent of mineral residue; it yields by distillation rarely less than 80 gallons of oil a ton, while large sections give from 130 to 150 gallons. Moreover, the quality of the Wolgan oil appears to be superior to that of any other got from shale. There exist in the company's property a proved 20,000,000 tons, and in addition an assumable 30,000,000 tons of shale, which is to say, about 60,000,000 barrels of oil. This oil the company proposes to extract at the rate of from 10,000,000 to 12,000,000 gallons a year. Like crude petroleum, this crude shale oil yields not only oil for gas-making purposes, but motor spirit, illuminating oil, lubricating oil, paraffin wax, and other products. The annual amount mentioned would yield, among other substances, about 3,000,000 gallons of kerosene.

The richer, or gas-making shale, appears to be as superior for gas purposes as the other is for oil. One gas company has, in fact, already taken 10,000 tons of it from the company within a year. It gives the exceptionally large amount of over 17,000 cubic feet of gas a ton, and is, therefore of more value for gas-making purposes than cannel coal or any other product.

The company's retorts and refineries are not yet finished, but that is only a question of time. The coal seam which is being developed in the same district is now yielding 400 tons a day. This coal is

very even in quality and produces a high class of coke, of which the ash averages less than 10 per cent and which does not contain more than one-half per cent of sulphur. There is at present a very large demand for coke, and this, as well as the oils, will be exported in increasing quantities.

The Wolgan-Capertee district is likely to turn out one of the most valuable in New South Wales, perhaps in the Commonwealth. The State government has offered to convey specimens of the oils, candles, etc., from the shale products to the approaching Franco-British exhibition and to give them a place in the New South Wales section.

GERMAN KIESELGUHR.

DEPOSITS, COMPOSITION, AND TREATMENT OF INFUSORIAL EARTH.

Consul Robert J. Thompson, of Hanover, makes the following report on kieselguhr, also called "shell flour," "hill flour," and "infusorial earth," found in Germany and elsewhere in Europe, and which is composed of an accumulation of shells of diatomea, consisting of pure silicic acid:

This earth or clay is found in considerable quantities in this consular district. It is a light, flourlike mass, gray, brownish, or light green; feels dry and soft to the touch, crunches between the teeth, absorbs water, can not be melted or burned, and in ordinary temperature resists chemical action. Kieselguhr is found in layers in alluvial soil or in the vicinity of lignite deposits. Large quantities exist in this district, especially near Huetzel in the Lueneberger Heide, and also near Unterluess in the same neighborhood. The kieselguhr extracted at Huetzel is dried only in the open air. It is whitish gray, white, black, green, or blue, and when dried is used for various purposes. It is generally cleaned before being used. Kieselguhr, or infusorial earth, is also found near Vogelsberg in Hessen, at Jastrabe in Hungary, near Franzensbad in Bohemia, in Tuscany, Sweden, Finland, and also in the Weichsel Valley. That found in the last-named locality is yellowish white, and may be cut out easily with a spade.

Following is an analysis of kieselguhr found in the Lueneberger Heide in this consular district:

Constituents.	White kiesel- guhr.	Green kiesel- guhr.	Constituents.	White kiesel- guhr.	Green kiesel- guhr.
	<i>Per ct.</i>	<i>Per ct.</i>		<i>Per ct.</i>	<i>Per ct.</i>
Water, general loss and organic substances.....	0.2	15.0	Lime.....	0.2	0.8
Protoxide of iron.....	1.0	2.0	Magnesia.....	.3	.4
Clay.....	1.0	1.9	Silicid earth.....	97.8	79.8
			Phosphoric acid.....	0.0	Trace.

The deposits are found very near the surface of the earth, about 1 to 3 feet deep. When prepared it is used principally for building and insulating purposes. It is practically weatherproof, that is, it is not affected by heat or cold, by dryness or moisture.

METHODS OF HANDLING THE PRODUCT.

The raw material is mixed with cement asphalt or other substance of pliable and hardening character (the proportions being held closely as trade secrets of the manufacturers) and pressed into slabs, blocks,

etc. In the manufacture of explosives, while kieselguhr is employed to considerable extent, it is quite dangerous, owing to the fact that it does not form a cohesive mass, the small particles being apt to roll or move about on the slightest disturbance, causing explosions.

There is very little machinery used in the preparation and treating of kieselguhr for the market, and such as may be purchased is of the simplest character. It is extracted from the earth like cohesive sand or clay, and then dried, generally in the open air. Reducing, mixing, and cleaning mills, similar to those employed for the manufacture of brick, are used. These are really grinding machines. They are calculated for both a coarse and fine product; the coarser mixture being utilized for artificial stone, slabs, mortar, padding, etc., and the finer for artificial marble, and working up in canvas, asbestos, and rope for wrapping pipes and wires for insulating purposes.

The grinding machines referred to may be obtained from a German manufacturer [whose illustrated catalogue is on file at the Bureau of Manufactures, from whom the address may also be obtained of the makers of a machine making kieselguhr twine and rope].

Such special machines as may be used for drying and forming kieselguhr are necessarily simple. They are, however, the secrets and for the most part the inventions of the factories using them, and as these manufacturers are few in number they have apparently found it advantageous, at least such is their policy, to withhold their methods from the public and retain them solely for their own use. There are no technical books or publications on kieselguhr.

EXTRACTION AND PREPARATION.

DETAILS OF INDUSTRIAL HANDLING OF THE ARTICLE.

Consul-General Hugh Pitcairn, writing from Hamburg, submits further facts on the German infusorial earth industry, as follows:

Kieselguhr is a very light, mealy substance consisting of 90 per cent of silicic acid, which is quarried in several parts of Germany, chiefly at Unterlues, in the Province of Hanover. The kieselguhr syndicate there consists of five pits. Besides, there are kieselguhr pits near Soltau, Hanover, along the upper Rhine, at Bautzen, Saxony, and near Giessen, Hessen.

Kieselguhr is not mined, the pits from which it is quarried not being deeper than about fifty feet.

The principal characteristics of kieselguhr, or infusorial earth, are the low specific weight it has, which is 0.250 to 0.550, the high absorption—75 to 82 per cent, i. e. up to four times its own weight—and its quality of being a very bad conductor of heat, making it one of the most reliable means of protection against radiation of heat.

The mode of extraction of kieselguhr is similar to that of clay for the manufacture of bricks. The product is removed from the open pit by means of lowries; it is then spread upon benches or hillsides, for the purpose of drying by air and sun.

Artificial drying processes, by means of hot air, in rooms, drums, or troughs, have not proved practical. Kieselguhr roasts easily, but must never be brought into touch with a flame, as it would soon calcinate. The drying of kieselguhr in ovens would not be profitable, and such process could never come into consideration in large kiesel-

guhr concerns. Several processes of drying kieselguhr by using mechanical means—particularly in revolving drums, also with the American Cummer system—have been tried in Germany during the last twenty years, but have not proved satisfactory, and have therefore all been discarded.

Kieselguhr has also been dried by means of hot air and exhausters, but this process is one applied only during wet weather, in exceptional cases, and with kieselguhr that had already been dried to a certain extent. This process, however, is not remunerative, and can only be applied with the best quality of kieselguhr—washed for the manufacture of dynamite—and at a time when the market for kieselguhr is at a high level.

It has to be taken into consideration that kieselguhr contains, as it is extracted, 70 to 90 per cent of water, which evaporates very slowly. Air-dried kieselguhr still contains 15 to 25 per cent of water. After having been dried kieselguhr is ground and packed in single or double sacks. During transportation special care must be taken to protect the product against moisture.

For crushing mills there are four different systems in use in Germany, with up to 7,500 revolutions per minute. A special system for such mills can not be recommended, as the respective condition of the kieselguhr must be taken into consideration. For instance, American kieselguhr is considerably harder and more brittle than the famous Hanover kieselguhr. Canada kieselguhr has an entirely different structure, and must therefore be treated in another manner than Florida kieselguhr.

The raw, ground kieselguhr is used as insulating material for boilers, engines, pipes, walls, stoves, etc., either raw or prepared, as composition, in bricks or plates. Kieselguhr is further used as filling material for soap, sealing wax, paints and colors, polishing pomatum, and for the manufacture of dynamite, cosmetic powders, and filters, also as filtering material in chemical factories, as no kieselguhr is absolutely inorganic.

Kieselguhr is washed by simple mechanical means in a tossing keeve, then deposited in large receptacles and dried in drying sheds. Finally it is pulverized.

CALCINATION RESULTS—VEGETABLE SUBSTANCES.

Hard, or so-called green, slaty kieselguhr is calcinated, not burnt. This natural process is chiefly caused by the free phosphorous and sulphur contained therein, as well as by organic substances, chiefly vegetable residuum. Therefore, ovens are not required for the calcination of kieselguhr, which can be done in the open air or in ordinary sheds protected against rain. According to its respective chemical composition, kieselguhr calcinates red, pink, dark, light, or white.

Certain kinds of kieselguhr contain 10 to 20 per cent of sand in their natural, raw state. These can be well used as insulating materials. For dynamite, cosmetic powders, filters, and polishing materials the sand must be carefully removed by washing. Special care must be taken for the removal of the fine quicksand.

Vegetable substances can not be removed by washing, but only by the calcinating process. The more carefully this is done, the higher

will be the capacity of absorption, particularly with the hard American kieselguhr, for which double draft of air must be used to effect thorough calcination.

USES OF THE PRODUCT.

SUPPLY OF RAW MATERIAL AND MANUFACTURED ARTICLES.

Consul Thomas H. Norton, of Chemnitz, furnishes the following additional information concerning the deposits of infusorial earth and the articles manufactured therefrom:

The use of kieselguhr in Germany is now very extensive. Large amounts are employed in the manufacture of dynamite, where the remarkable absorbent properties of the material come into play. Its use alone as a fertilizer, and also in the preparation of artificial fertilizers, especially in the absorption of liquid manures, is widespread. There is also an extended use of the earth for rapid filtration purposes, as well as for covering steam pipes, lining refrigerators, and filling the walls of fireproof safes. In the manufacture of water glass, of various cements, of glazing for tiles, of artificial stone, of ultramarine and various pigments, of aniline and alizarin colors, of paper, sealing wax, fireworks, gutta-percha objects, Swedish matches, solidified bromine, scouring powders, papier-maché, and a variety of other articles, there is a large and steadily growing demand.

For some of the purposes in question, and especially when kieselguhr is used to absorb nitroglycerin in the preparation of dynamite, it is of prime importance that the earth should be freed as far as possible from moisture.

METHOD OF TREATMENT.

In German dynamite works, where the purest grades of kieselguhr only are employed, it is ordinarily subjected to the following treatment:

The earth is first roasted superficially in large rooms, in order to destroy all organic matter and expel nearly all water present. It is then transferred to flame or muffle furnaces and heated at a higher temperature. Care is observed, however, not to raise the temperature too high, as the absorptive power is destroyed by overburning.

The earth is then ground to a fine powder between rollers and sieved. At this stage it should contain less than 1 per cent of moisture. The product is put into sacks and used the same day, before additional moisture can be absorbed.

Where all the precautions required for use in the dynamite works need not be followed, a prolonged drying in chambers supplied with steam pipes usually suffices. Careful provision is made for rapid ventilation by mechanical means, so as to remove the expelled moisture as rapidly as possible, and thus shorten the operation.

Some of the most important deposits of kieselguhr or infusorial earth are found in Germany. The region in which it is most abundant is the extensive Lüneburg Moor, which extends for about 50 miles between the rivers Aller and Elbe, in Prussia. Smaller deposits are worked in the Vogelsberg in Hesse and near Celle, not far from Hanover. [Plans of drying galleries and of rotary and calcination drums, with instructions as to their uses, accompanied Consul Norton's report, and are filed in the Bureau of Manufactures.]

FRENCH METAL PRODUCTION.

LITTLE OPPORTUNITY FOR MARKETING AMERICAN COKE IN EUROPE.

Consul-General Robert P. Skinner, of Marseille, advises that the following valuable statistics in regard to the production of iron and steel in France have just been made public by the proper department of the French Government :

	1906.	1907.		1906.	1907.
Pig iron:	<i>Tons.</i>	<i>Tons.</i>	Wrought iron and steel—	<i>Tons.</i>	<i>Tons.</i>
Pig iron, first fusion.	583,021	634,837	Continued.		
Refined pig iron.....	739,037	678,269	Merchant iron and		
Bessemer pig iron ...	152,107	126,197	steel—Continued.		
Thomas pig iron.....	1,787,146	2,105,100	Obtained by		
Special pig iron	52,851	57,885	charcoal proc-		2,216
Total pig iron.....	3,314,162	3,606,288	ess.....		
Cast steel:			Obtained by re-		
Rails	328,474	343,630	heating pig		
Merchant steel, in-			iron and steel,		369,716
cluding wheel tires	932,691	778,029	puddling iron,		
Plates	366,080	346,683	and old iron...		
Pieces for forging....	29,773	53,884	Total	658,481	578,997
Steel moldings.....	26,549	32,556	Plates—		
Total worked steel.	1,683,567	1,554,786	Obtained by pud-		7,942
Steel ingots.....	2,371,377	2,653,613	dling		
Steel blooms and bil-			Obtained by re-		
lets	1,052,167	1,374,479	heating pig		
Wrought iron and steel:			iron and steel,		100,310
Merchant iron and			puddling iron,		
steel—			and old iron...		
Obtained by pud-		207,065	Total	89,482	108,252
dling			Total wrought iron	747,963	687,249
			and steel.....		

WORLD'S OUTPUT OF PIG IRON.

PRODUCTION OF THE LEADING COUNTRIES DURING PAST THREE YEARS.

There was a small increase last year, according to the available statistics, in the world's production of pig iron. A table published in the Iron Age gives returns, in gross tons, from countries which produced more than 93 per cent of the total, with estimates for the remaining, as follows:

	1905.	1906.	1907.
	<i>Gross tons.</i>	<i>Gross tons.</i>	<i>Gross tons.</i>
United States.....	22,992,380	25,307,191	25,781,361
Germany.....	10,813,979	12,280,879	12,839,508
Great Britain.....	9,592,787	10,149,388	9,923,856
France.....	8,028,089	8,206,580	8,532,233
Russia.....	2,672,155	2,599,976	2,599,976
Austria-Hungary.....	1,560,000	1,575,000	1,900,000
Belgium.....	1,290,400	1,354,083	1,406,374
Canada.....	468,008	541,957	581,146
Sweden.....	518,967	596,231	596,231
Spain.....	387,402	373,248	373,248
Italy.....	140,818	133,158	123,158
Japan.....	47,613	47,613	47,613
Other countries.....	200,000	200,000	200,000
Total.....	58,712,543	58,424,254	59,912,789

* Not final.

• Assumed from preceding year.

COAL AND COKE.

FRANCE.

LITTLE OPPORTUNITY FOR MARKETING AMERICAN COKE IN EUROPE.

Consul-General Robert P. Skinner, of Marseille, advises that only under exceptional circumstances does it appear possible to market American coke in France, owing to the proximity of other coke supplies, and the ordinarily very high freight rates charged upon shipments from the United States. He gives the statistics of the importations of coke into France during the last three years as follows:

Country.	1905.	1906.	1907.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Belgium.....	500,694	468,033	413,410
Germany.....	1,114,854	1,753,188	1,744,180
Others.....	17,298	36,700	18,210
Total.....	1,632,841	2,257,866	2,175,750

In 1901 a small cargo of American coke was received in Marseille, since which time no further importations from that source have been received. At present the prevailing price is from 20 to 24 francs (\$3.86 to \$4.63) per ton. The Paris, Lyon and Mediterranean Railroad Company is an annual buyer of about 5,000 tons, usually from the Marseille Gas Company, and other manufacturing concerns in this locality absorb small quantities. There are few large metallurgical industries in this region, which explains the insignificant local demands. Exporters of American coke who desire to submit propositions to local buyers are advised to correspond with any or all of the concerns whose addresses are forwarded [and filed with the Bureau of Manufactures.]

ITALY.

COMPLETION OF TUNNEL FOR TRANSPORTING COAL AT GENOA.

Deputy Consul Angelo Boragino furnishes the following information regarding new facilities for the transportation of coal from Genoa to factories in neighboring districts:

The transportation of coal from the landing piers at the Genoa wharves has been considerably increased by the opening of a tunnel, cut through solid rock, and leading to the adjacent city of Sampierdarena. Coal trucks drawn by mules, which will hereafter pass through this tunnel, will supply fuel for the consumption of the different factories lying between the city of Genoa and Voltri on the west and Bolzaneto on the northwest.

The dimensions of the tunnel are as follows: Length, 275 meters (902 feet); width, 15 meters (49.2 feet); height, 8 meters (26.2 feet). Constructive work was begun on August 1, 1907. Trucks transporting coal save a long ascending passageway, involving more than an hour's time. Some 600 carloads, averaging from 2½ to 3 tons of coal each, will pass through the tunnel daily. Its mouth begins on the pier, just under the fortress of San Benigno, and ends at Sampierdarena.

The question of the speedy transportation of coal arriving by sea to the factories of the north of Italy is the most engrossing problem of the port, and much importance is attached to any measure tending toward the relief of coal congestion on the local wharves. Three million tons of foreign coal were landed at Genoa last year.

UNITED KINGDOM.

AMOUNTS OF COAL MINED AND SHIPPED—NUMBER OF WORKERS.

Consul-General Robert J. Wynne, of London, submits the following summary of statistics issued by the British home office relating to the output of coal and other minerals and the number of persons employed at mines in the United Kingdom during the year 1907:

It appears that the output of coal in the year 1907 was nearly 268 million tons, being an increase of over 16½ million tons, or 6.7 per cent as compared with 1906. Every coal field, without exception, shared in the general increase of output. The three principal coal fields—those of South Wales and Monmouth, Northumberland and Durham, and Yorkshire, Nottinghamshire, and Derbyshire—had outputs of 50, 54, and 78 million tons, respectively, the South Wales coal field having increased its output by nearly 3 million tons, and the Yorkshire, Nottinghamshire, and Derbyshire coal field by 6 million tons, the increase in each case being over 6 per cent.

The exports of coal, coke, and manufactured fuel from the United Kingdom in 1907 amounted to 66,063,258 tons, and the quantity of coal shipped as bunker coal to 18,618,828 tons—increase of 8,271,054 tons and 28,615 tons, respectively, as compared with 1906.

The total number of persons employed at mines under the coal mines regulation act and the metalliferous mines regulation act in 1907, including a certain number of persons engaged in mining ironstone, fire clay, shale, etc., was 940,618, an increase of 58,273, or 6.6 per cent. In 1907 there was very little change in the output per person employed as compared with 1906.

CHINA.

AN AMERICAN ESTIMATE OF THE COAL RESOURCES OF THE EMPIRE.

Bailey Willis, of the United States Geological Survey, has just described in three volumes the geological traverse of about 2,000 miles in north and central China that his party made for the Carnegie Institution. He says that China's present needs require the working of all the coal fields to the depths permitted by Chinese methods, and that when the Empire develops her industries the productive capacity of all possible coal mines will be taxed. With her enormous necessities, he does not believe that China will have coal to export. He estimates the total amount of coal in north China at 605,000,000,000 tons, which may be 100,000,000,000 tons more or less out of the way. As far as is yet known, the larger part of the coal of China is in the northern fields, and this estimate of their content is 45,000,000,000 tons less than the United States Government estimate of the total amount of coal in the Appalachian fields.

MACHINES AND APPARATUS.

MODERN APPLIANCES.

FORMOSA.

ACTIVE MARKET FOR SUGAR MILL EQUIPMENT AND OTHER MACHINERY.

In reply to inquiries of manufacturers of machinery and of equipment companies Consul Julean H. Arnold, of Tamsui, furnishes the following information concerning the sugar industry of Formosa and imports of machinery and mill supplies therefor:

There is much activity at present in South Formosa in the erection of large modern sugar mills. Machinery for five mills, representing an outlay of several millions of dollars, is at present lying on the beach in Takao Harbor awaiting transportation to the sugar plantations. There are ten vessels now engaged in discharging or attempting to discharge cargoes of sugar machinery and mill equipments. The harbor facilities have been taxed to such an extent that large demurrage claims have been lodged by the shipping companies against consignees.

Outside of the Honolulu Iron Works, which has secured a contract for the erection of three large mills, no other American firms have booked any orders or appear to be interested in attempting to compete with the British and German firms, which are at present engaged in supplying the greater part of the machinery for the new mills.

SUGAR INDUSTRY AND MILL REQUIREMENTS.

Experts declare that the soil and climatic conditions of Formosa are peculiarly well adapted to the growing of sugar cane. The Formosan government is doing everything possible to encourage the growing of cane in the island. Furthermore, the Japanese Government is determined that Formosa, which at present supplies but 20 per cent of the Japanese consumption, shall supply the entire consumption, as well as enter the markets of China and the rest of the Far East. That capitalists in Japan have every confidence in the sugar industry of Formosa is attested by the fact that, in face of a financial stringency during the past year, over \$10,000,000 has been subscribed to sugar manufacturing companies in Formosa.

There are still a number of mills to be contracted for, and future developments are bound to require extensions in the mills now under course of erection, and the native mills, of which there are a large number, must either amalgamate and erect modern mills or be absorbed by the larger companies.

In connection with the erection of the mills at present contracted for there will be a demand for good concrete mixers, pumps, and electric fittings. Naturally, the large mills all find the cane cars a necessity. Already 325 miles of sugar trams are contracted for, and

the little 20-ton locomotives are now puffing over the sugar plantations to an extent undreamed of a few years ago.

One of the larger companies has purchased two pairs of steam plows and pronounces the steam plow a necessity to the future welfare of the sugar industry in Formosa. The country is flat and lends itself well to the use of the steam plow. Undoubtedly within a few years the steam plow will be as common on the lowlands of Formosa as the sugar trams.

The government sugar bureau recently purchased three American windmills for experimental purposes in connection with irrigating their experimental sugar plantation in South Formosa. Water can be found at a depth of from 10 to 20 feet on the lowlands, and it is quite possible that the windmills may be found to be profitable in irrigation work. Whether windmills prove a success or not, the introduction of pumps throughout many of the plantations will be a necessity.

A GOOD FIELD FOR AMERICAN COMMERCIAL TRAVELERS.

This office finds that there is much ignorance on the part of the American business public as to the facilities which this island furnishes for the commercial traveler. Boats of 2,000 to 2,500 registered tonnage ply between Formosa and Japan on regular three and five day schedules. These have good passenger accommodations. From Kobe, Japan, to Kelung, Formosa, about 950 miles, is covered in three and one-half days. The government railway extends from Kelung, in the north, to Takao Harbor, in the south, about 200 miles. The various sugar plantations can be easily reached from this railway; in fact, many of the mills are being erected along the road. A splendid modern hotel is in course of erection in Taihoku, the capital city. Good Japanese hotels can be found all along the railway. Reports have been published in the United States from time to time in regard to savage warfare in Formosa which would make it appear that the island is overrun with head-hunting tribes, but savage tribes in Formosa are all confined to the heavily timbered mountain regions, and one may live on the lowlands for years and never see one of them. Life and property on the lowlands in Formosa are as safe from the attack of savages as they are in Japan. The island is remarkably well policed, and law and order obtain throughout the civilized portions. The American manufacturer who is looking forward to business relations with Formosa in connection with the sugar industry would do well to send his representative here to study conditions and interview prospective buyers personally. He need not be told that the catalogue is of little use without the man to explain it, especially among a people who read but little English.

ENGLAND.

A POWERFUL DREDGER TO BE USED IN THE HARBOR OF LIVERPOOL.

Consul John L. Griffiths sends from Liverpool the following description of an improved dredging machine being built for operation in that harbor:

It is claimed by leading English experts that the dredging since 1890 of the River Mersey and its approaches has been one of the most

continuously successful undertakings of that character in the history of marine engineering. As the port of Liverpool is used by vessels of the deepest draft it is very important that the entrance channels at the bar and the approaches to the docks and the landing stage where the ocean liners embark and disembark their passengers should be kept not only free, but that a sufficient depth of water should be maintained at all stages of the tide. The Mersey docks and harbor board, for the purpose of overcoming the sand accumulation, in 1890 instituted suction dredging, which has been so satisfactory that the board has since then largely increased the size and powers of their dredgers, and recently has given an order for the construction of a dredger which will be the largest and most powerful ever built. The contract provides for a vessel which can lift 10,000 tons of sand in fifty minutes, and attain a speed, if necessary, of 10 knots. The dimensions of the dredger will be as follows: Length, 478 feet over all, 69 feet beam, and 30 feet 7 inches in molded depth.

The dredger is now nearing completion and when finished will have a hopper capacity of 180,000 cubic feet, which is to be filled from a maximum depth of 70 feet within fifty minutes, and as the total load displacement will be about 18,000 tons, exceptional strength will be a prominent feature of the hull and jointing of the dredger, and the shell plates will be three-quarters of an inch thick, 28 feet long, each weighing $2\frac{3}{4}$ tons, and the butts will be quadruple riveted. The dredger will have four centrifugal pumps, each of which will be driven by an independent engine, and when driven they will together lift the great quantity of sand mentioned. The propelling machinery will be of 3,500 indicated horsepower, and will consist of two sets of inverted vertical direct-acting triple-expansion engines, with cylinders $22\frac{1}{2}$, 37, and 61, and a stroke of 45 inches.

SAFETY ARRANGEMENTS—DECK SWAMPING OVERCOME.

The engines for the propulsion of the dredger under way and for the pumping when at work will be supplied with steam from four single-ended boilers of the multitubular type, 16 feet internal diameter, and 11 feet 9 inches longitudinally. The boiler power is arranged forward of the hoppers and immediately behind the latter two pumping rooms are located, and still further back there are four single-ended boilers and the twin sets of screw-propelling machinery. There will be twenty-one water-tight compartments, so that ample provision will be made for the safety of the vessel in case of an accident.

Each of the four pumps will have separate suction tubes fitted to the side of the vessel, and they will be provided with underwater apparatus controlled by the sluice valves inside the dredger. The tubes will be 42 inches in diameter, the suction being of the double inlet type. The sluice valves on the ship's sides will be operated by hydraulic power. Side frames will be fitted for each suction pipe. Swivel bands will be fixed to the suction pipes, so they may have free horizontal or circumferential motion during the swinging of the vessel. The delivery pipes will act into two landers, which will run the full length of the hoppers, and will have inlets at each hopper.

There will be a marked advance upon the other types of sand-pump dredgers belonging to the dock estate in regard to the disposal of surface water. In the present type, the surface water overflows from the hoppers over the decks, and then over the sides of the vessel.

In the new dredger this "deck swamping" will be obviated, as the overflow on rising above a certain height will find its way over two weir plates and then be provided with an outlet through two trunks immediately above the load line. The discharge valves are to be of a cylindrical type, each having a lift of 4 feet, and they may be raised or lowered by a direct-acting hydraulic ram, the hydraulic engine being fitted in the pump room. The deck of the dredger will have four powerful steam winches for lifting the suction tubes, and four more winches for warping purposes, besides a powerful steam windlass for the anchors. The winches will each be driven by a vertical two-crank engine.

BRITISH INDIA.

NEED OF MECHANICAL APPLIANCES FOR TEA CULTURE.

Consul E. Haldeman Dennison, of Bombay, supplements Consul-General Michael's statements as to the need of mechanical appliances for tea growing in India. He quotes a commercial journal which says that labor is getting scarcer and higher. An implement is needed that will turn over the soil effectively without harming to any appreciable extent the rows of tea bushes, and also capable of crossing the narrow lateral drains with which the tea gardens are grid-ironed. It is also suggested that it is not impossible to alter plucking methods in such a way as to render the work accessible to a machine. Mr. Dennison adds that it would appear that here is an opportunity for American ingenuity to supply these much-desired improvements.

GERMANY.

WORLD RECORD ESTABLISHED FOR LOCOMOBILES.

Consul Frank S. Hannah reports that in some tests made in March in a factory at Magdeburg-Buckau, Germany, by an expert from Darmstadt, a new world record was established for "locomobiles" in the production of a maximum amount of steam by a minimum consumption of coal. The engine used to make the experiments was a newly constructed 100-horsepower patent steam "locomobile" (traction or stationary engine), with piston-valve distribution and use of superheated steam. The tests established that for each unit of horsepower 3.93 kilos (8.66 pounds) of steam and 0.473 kilo (1.042 pounds) of coal were consumed per hour.

NORWAY.

SUCCESSFUL TEST OF AN AMERICAN MOTOR ENGINE.

Consul Felix S. S. Johnson, of Bergen, reports that recently at Hardanger an American motor engine was installed in a Norwegian fishing smack. It was thoroughly tested, with the result that America will from now on enjoy a part of this trade. In Norway, as well as in the other Scandinavian countries, the governments assist their fishermen by loans which are returnable in ten years; first installment payable on the third year, then annually, with interest, until the whole amount is paid back. American motor manufacturers are urged to participate in the exposition to be held at Trondhjem this summer.

GERMAN WIRELESS RATES.

TRANSMISSION OF MESSAGES FROM AND TO SHIPS AT SEA.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following information regarding wireless telegraph installations which have recently been placed on the ships of the Hamburg-Amerika line running between Shanghai, Tsingtau, and Tientsin in China:

Sea telegrams are those which are exchanged between ships at sea and the stations situated on land. They must, when forwarded via wireless stations, be either in plain words or in code terms contained in commercial cable codes. If intended for ships at sea, the address must contain, in addition to its usual contents, the name or official number of the ship and its nationality.

Rates from Tsingtau to ships at sea or vice versa are 5 cents Mexican (approximately $2\frac{1}{2}$ cents gold) per word, with a minimum charge of ten words. For messages from ships at sea to other places or countries the rates of the German postoffice as published are applicable. In addition to this word rate a fixed sumptuary sea rate of 40 cents per message will be added. Total charges on messages sent to ships are payable by the sender, of messages received from ships by recipient.

Telegrams sent to ships at sea are, like all other telegrams, sent through the German post and telegraph office, and messages from ships at sea are delivered to recipients in the same way. A wireless station is situated at Tsingtau, and instruments have been installed on the "Admiral von Tirpitz" and the "Staatsekretar Kraetke," both of the Hamburg-Amerika line.

CHINESE TELEGRAPH LINES.

EXTENT OF THE GOVERNMENT SYSTEM—WORLD CONNECTIONS.

Consul-General James W. Ragsdale, of Tientsin, submits the following information with reference to the Imperial Chinese telegraph lines, gathered from reports recently published:

At the end of 1906 the administration had a system of 22,419 miles of telegraph lines, with 34,473 miles of wires and a submarine cable of 946 miles; 379 offices, of which 62 were open for day and night service, and 317 for day service only. The number of instruments in actual use was 768. The staff of the head office in Shanghai numbered 67 and the general staff 3,175, while inspectors, linemen, etc., totaled 2,400. In addition there are many provincial lines, usually constructed by the administration, but worked and managed independently by the provincial authorities. [The financial workings of the Chinese Government telegraph lines and the profits for 1906 were recently the subject of a report in Consular and Trade Reports from the Shanghai consulate-general.—B. of M.]

The telegraph companies having connections with China are the Great Northern, Eastern extension, German, Dutch, and Commercial Pacific, while the French cable connects Touraine with Amoy, a German cable Shanghai with Kiachow and Chefoo, and a third cable, partly Chinese, Chefoo with Port Arthur. China also has frontier connections with Burma, Indo-China, and Russian Siberia.

STEEL BELTING.

GERMAN TESTS OF NEW METHOD FOR TRANSMISSION OF POWER.

Consul Frank S. Hannah, of Magdeburg, writes that in a recent issue of a German technical paper, the use of steel bands to take the place of leather belting for the transmission of power is stated to have proved practicable after repeated tests by a firm in Charlottenburg, its advantages being given as follows:

The points of superiority claimed for this new method for the transmission of power are the following: On account of its solidity a much narrower band can be used, one-sixth of the width of the usual leather band being sufficient; as a result of this the steel band is not so heavy as the usual leather band, and, as it can be very tightly adjusted, the distance between the engine and the machine is not a matter of importance, as is the case with the leather belting, where the transmission of power is dependent upon the weight of the hanging belt; by a unique contact, the slipping is much reduced, experiments having shown that this does not exceed one-tenth of 1 per cent. Careful and repeated experiments have shown that the entire loss of power is very small, and as far as can be ascertained will not exceed 1 per cent. Further, owing to the lightness of weight of the steel belting, it is claimed, the influence of the centrifugal force is not so great and allows of a much increased velocity.

[Illustrations of the steel belting forwarded by the consul are filed with the Bureau of Manufactures.]

AUTOMATIC MONEY ASSORTER.

AUSTRIAN INVENTOR PRODUCES A NEW MECHANICAL DEVICE.

Consul Joseph I. Brittain reports from Prague that a recent issue of an Austrian journal gives an account of an automatic money assorter, which is thus described:

The inventor claims that it will assort metal coins which have been thrown together regardless of their denominations, placing each denomination in a separate basket. The various coins are thrown indiscriminately into a funnel at the top of the machine, and from the funnel they slide downward, alighting on a spiral track. This track has a protecting edge or raised border containing slits corresponding to the various sizes of the coins. As the coins of various denominations glide downward onto the track, through some peculiar mechanism of the machine they pass through the slits corresponding to their various sizes, entering their respective baskets at the bottom of the machine.

It is said that several firms handling large amounts of coin daily have tried the machine with satisfactory results.

FOODS AND DRINKS.

COFFEE TRADE.

BRAZIL.

DETAILS OF THE BUSINESS—AMERICANS THE GREATEST CONSUMERS.

Consul-General George E. Anderson, of Rio de Janeiro, states that there is an increasing number of individuals and firms doing business in the United States in coffee which display an anxiety to purchase coffee direct in the Brazilian markets to whom some information as to how the export coffee business is conducted is necessary, which he gives as follows:

Under ordinary conditions it is not practicable for dealers in the United States to become importers unless they are able to establish connection with a Brazilian house of an exceptional nature—not only a house in which there may be confidence, which may of course easily be had, but one so situated that it can buy and grade coffee of the particular grades needed by the small importer and do this at less expense than the great American importing houses.

Coffee in Brazil, as a rule, is sold by the planters to “commissarios,” commission men who have a peculiar relation to the grower. Theoretically the commissario sells the planter’s crop to the exporter upon a commission. Practically he is more or less of a banker for the planter, advancing him money from time to time during the course of a year as against the maturing crop and liquidating the indebtedness to himself on the part of the planter by a settlement which involves more or less of a direct sale from the planter to him. The relation between the grower and the commissario varies so that it is impossible for an outsider to count upon deriving any advantage from interference with it.

GRADING THE PRODUCT FOR MARKET.

While some planters do more or less work in the way of separating their coffee into the several commercial grades, the vast bulk of the coffee as received by the commissarios is of mixed quality as taken from the curing floors. Commissarios therefore generally clean and grade it, and it is put on the market cleaned and graded, though this is not always the case. Coffee as bought from the commissarios may be taken as the berry in its first commercial movement—in its primary market. Prices for coffee in this market are fixed, not only by general coffee conditions the world over but by the average quality of the particular lot in question, and by what further cleaning, separating, grading, and manipulation can do.

Coffee as known on the American and other foreign markets is often far different from what that same coffee was in Brazil. It is graded so that the component parts of any particular lot may exhibit the

qualities of several varieties—Mocha, Java, Santos, Rio, and the like. For the experienced buyers and roasters in the United States it is graded to give a particular quality of an infusion upon roasting, grinding, and infusion making, according to the methods of the house in question. Every lot of coffee must produce certain results corresponding to a certain grade. Its size, appearance, and apparent condition even can not be taken as final tests of what it is.

BEST METHODS OF BUYING.

The result is that coffee must be bought by sample to be bought intelligently. It comes from the commissario in small lots, as a rule, each of which is tested, sorted, and distributed according to quality until larger lots are formed. An American house requiring a large amount of coffee, therefore, will find it profitable to have a man on the spot to test, grade, purchase, and collect coffees of the required grades. The American importer who does not have such a representative must trust the quality of his coffee, the purchasing it, grading it, collecting it in sufficient quantities, and shipping it to a Brazilian house, which, after all, is in no position to do the work or perform the service any more cheaply than the American house having a representative.

Coffee purchased and graded by the great American importing houses which have representatives in the Brazilian markets is generally sold on the American markets at a profit over the actual cost to the importers in Brazil plus freight and expenses, but the fact that the coffee is handled upon so large a scale, with freight rebates, the advantage of having large stocks to draw from for any particular grade, and the general nature of the business in handling large quantities of a commodity which is a staple, is not injured by storage, is easily handled, and which up to a certain point is improved with age, renders this profit ordinarily a small one, and unless the average American jobber deals in a very large amount of coffee in the course of a season it is doubtful if the disadvantages he has in dealing in the Brazilian market at long range do not more than make up for this middleman's profit.

PRICE QUOTATIONS—LARGE SINGLE SHIPMENTS.

It is impossible for reasons indicated for the consulate to quote at any time, as it is often requested, prices for coffee ruling in the Brazilian markets. In the first place prices for coffee the world over are fixed largely by New York prices, the United States using something like half of the entire coffee crop of the world. At all events with few temporary exceptions, the New York prices for coffee represent Brazilian prices, plus the usual expenses of importing coffee in New York. Prices in any case are not of much value without definite knowledge of the specific quality of the coffee. Coffee grading New York Type No. 7, for instance, may include several grades which a practical buyer would take advantage of—i. e., the coffee would actually be worth something more or something less than the price quoted for the grade. The price quoted for the grade is merely representative or indicative of a range of prices.

There are Brazilian houses dealing in the Brazilian markets which buy, clean, mix, and sell coffee to the trade in the United States, generally on a commission basis, and evidently some American houses

find this advantageous, for the trade is maintained. The general movement, however, is in the direction of securing American supplies through houses having buyers here and importing coffee into the United States by the shipload. It is not at all uncommon in this consulate-general to certify to an invoice of a shipload of coffee in a single transaction, to a single consignee—a single consular document for half a million dollars' worth of coffee. While coffee freights to the United States are generally by the bag, 35 cents a bag being the standard rate, there are lighterage and other advantages in large shipments which naturally tell in the trade. [The consul-general names seven firms in Rio Janeiro buying coffee for export with whom he suggests correspondence might be profitable. These names are listed with the Bureau of Manufactures.]

CUBA.

VERY LITTLE GROWN—IMPORTATIONS ARE EXTENSIVE.

In response to a New York request for information as to the cultivation and market conditions of coffee in Cuba, Consul-General James L. Rodgers, of Habana, writes as follows:

The coffee industry flourished to some extent a good many years ago, but has been allowed to lapse into a state of comparative inactivity, and there is now no special culture except on large estates where coffee for the consumption of the owners and tenants is grown. Cuba does not grow enough coffee for its own use. This is shown for instance by the statistics for the fiscal year of 1905-6, in which it is stated that 20,690,539 pounds were imported, of which 5,926,850 pounds came from the United States; 2,023,639 pounds from Brazil; 9,997,963 pounds from Porto Rico; 2,485,498 pounds from Venezuela, and the remainder in small lots from Argentina, Costa Rica, Colombia, Haiti, Mexico, Santo Domingo, France, and the Netherlands. In the same fiscal year Cuba exported only 19,356 pounds, most of which went to Spain, thus indicating that it was locally grown coffee exported from sugar estates and haciendas owned by Spaniards.

HINDRANCES TO CULTURE—GOVERNMENT EXPERIMENTS.

It can be seen from these figures that the coffee culture of Cuba is practically in a state of desuetude and that apparently there is but little if any intention of reviving it by the owners of large estates. The reason for this is essentially the low price of coffee in the markets of the world; the difficulties attending its culture in Cuba; the high price of labor necessary; and the inclination of the people to devote their energies to more profitable crops, such as sugar cane and tobacco. These conditions are made all the more significant when it is stated that the great importation of coffee continues despite the fact that a duty of \$18.70 per 100 kilos (kilo=2.2 pounds) is levied.

There are no statistics which bear directly upon the coffee production of Cuba, nor do there seem to be any settled and definite methods of culture, the processes varying with the individual opinions of the growers, and usually consisting of nothing more than crude harvest methods from trees which constitute groves practically growing wild.

The Government has of late been attempting to create some interest in the culture, and while in a few localities young plantations have

been set out, there is nothing as yet which provides satisfactory data to apply to the industry as a whole.

According to the best information obtainable the provinces of Pinar del Rio and Santa Clara contain the best remnants of the old plantations, these being situated in the high lands, and existing principally without cultivation. In every province of the island there is more or less coffee growing, but as stated there is at present but little intensive culture.

ALCOHOLIC BEVERAGES.

UNITED KINGDOM.

TESTIMONY ON PRODUCTION OF SCOTCH, IRISH, AND ENGLISH SPIRITS.

Consul-General Robert J. Wynne reports that some very interesting facts and figures in reference to the production of Scotch, Irish, and English spirits have been made public by the testimony of excise (internal revenue) officials summoned to appear before a government commission now sitting in London. The consul-general writes:

This commission is directed to inquire and report as follows:

First, whether in the general interest of the consumer or in the interest of the public health or otherwise it is desirable (a) to place restrictions upon the materials or the processes which may be used in the manufacture or preparation in the United Kingdom of Scotch whisky, Irish whisky, or any spirit to which the term whisky may be applied as a trade description; (b) to require declarations to be made as to the materials, processes of manufacture or preparation, or age of any such spirit; (c) To require a minimum period during which any such spirit should be matured in bond, and (d) to extend any requirements of the kind mentioned in the two subdivisions immediately preceding to any such spirit imported into the United Kingdom.

Second, by what means, if it be found desirable that any such restrictions, declarations, or periods shall be prescribed, a uniform practice in this respect may be satisfactorily secured; and to make the like inquiry and report as regards other kinds of potable spirits which are manufactured in or imported into the United Kingdom.

The official evidence shows that in the view of the excise authorities all spirits made in the United Kingdom are regarded simply as spirits. The object is merely to levy so much revenue on so much spirit, and nothing else.

REVENUE, PRODUCTION, AND CONSUMPTION.

The net amount of duty received on British spirits for the last year was \$86,356,650, England contributing \$32,926,174, Scotland \$33,590,680, and Ireland \$19,839,796. The quantity of spirit made during last year was 50,317,908 proof gallons, England furnishing 13,424,854, Scotland 24,839,870, and Ireland 12,053,184. The estimated consumption of spirits per head of the population works out at 0.74 proof gallon per head for the whole population. That figure is arrived at by dividing the total number of proof gallons of spirits on which duty was paid and passed out of the revenue control by the estimated population for a particular date, allowance being made for duty-paid spirits which come back into revenue control and on which a drawback has been paid.

Consumption includes stocks laid down in cellars and everything of that kind. There would be a considerable quantity wasted, and a certain amount would go for other purposes.

The actual number of distilleries in the different parts of the United Kingdom now working is: In England, 8; Scotland, 150; Ireland,

27. In addition to these there are in England not working, 1; in Scotland, 12, and in Ireland, 3.

MATERIALS USED.

The materials used in the manufacture of British spirits were malt, unmalted grain, including corn, barley, oats, rye, and wheat, rice, molasses, glucose, sugar, sago, tapioca, and other substances such as bran and malt combings. (Malt combings are the rootlets of the malted grain which break off while the malt is being dried in the kiln.) The last two mentioned were not really spirit-producing materials, but were employed mainly to promote fermentation. There was no restriction as to the materials which might be used for the production of spirit so long as the specific gravity of the worts produced could be ascertained by the hydrometer. The quantities used of the different materials in the last distilling year were as follows:

Scotland:		England—continued:	
Malt.....	quarters.. 847,530	Glucose.....	hundredweight.. 408
Unmalted grain.....	do.... 496,798	Sugar.....	do.... 2
Bran.....	hundredweight.. 840	Bran.....	do.... 1,541
Malt extract.....	do.... 70	Sago.....	do.... 3,593
England:		Tapioca.....	do.... 1,393
Malt.....	quarters.. 81,289	Malt combings.....	do.... 6,237
Unmalted grain.....	do.... 253,314	Ireland:	
Rice.....	hundredweight.. 950	Malt.....	quarters.. 215,151
Molasses.....	do.... 1,065,509	Unmalted grain.....	do.... 384,963

No other kinds of materials are used in Ireland. The totals of the foregoing materials are: Malt, 1,143,970 quarters; unmalted grain, 1,136,075 quarters; molasses, 1,065,509 hundredweight, and other materials, 15,034 hundredweight.

The average production of spirits from each class of material is, in gallons, as follows:

Classes.	Production.	Classes.	Production.
Malt.....per quarter..	16.5	Sugar.....per hundredweight..	10
Unmalted grain.....do....	20	Molasses.....do....	6
Sago.....per hundredweight..	7.5	Glucose.....do....	8.4
Tapioca.....do....	7.5		

Further statistics showed that in England only about one-fourth of the spirit produced was made from malt, in Scotland 58.4 per cent was made from malt, and in Ireland 31.6 per cent. Taking the United Kingdom as a whole the production of spirits was 39.3 per cent from malt, 47.4 per cent from unmalted grain, and 13.3 per cent from molasses.

Most of the spirit made from molasses was used for methylation or for industrial purposes. There were two kinds of methylated spirit. One of these contained 5 per cent of methyl alcohol mixed with it, and the other was mineralized methylated spirit, which contained 10 per cent of methyl alcohol and three-eighths of 1 per cent of mineral naphtha. The first was only allowed to be used by persons specially authorized by the commissioners of inland revenue, but the latter could be used by anybody and was the sort usually sold in the oil shops. Some molasses spirit was used for blending for drinking purposes, but not very much.

ENGLISH WHISKY—STRENGTH OF DISTILLATIONS.

English-made spirits were largely used by rectifiers and compounders for making gin, and compounds, such as cherry brandy,

cherry whisky, ginger, sloe gin, peppermint, and fruit cordials, and also for tinctures for medicinal purposes.

Both pot-still and patent-still distilleries used unmalted grain. In the latter the principal grain was corn, but oats, barley, and rye were also employed, as well as sago and tapioca. About 25 distilleries devoted themselves largely to the manufacture of yeast for sale. Some of these produced from 20 to 40 tons a week, and as the price was from \$146 to \$195 a ton the trade was an important one, though it has had to compete with German trade very much during the last twenty years.

When the spirit had gone through the process of manufacture to the spirit receiver its strength varied from 13 to 18 overproof, and where there was a second distillation it varied from 40 to 50 overproof. In Ireland the spirit produced was redistilled as a rule, and consequently it ranged between 40 and 50 overproof. When bonded, the spirit in Scotland was 11 overproof, and in Ireland about 25 overproof. By law the distiller might bond at any strength not below 20 underproof or above 25 overproof. Spirits were bonded at different strengths to suit circumstances.

PATENT STILL—QUANTITIES OF SPIRITS IN STOCK.

With regard to patent stills, fusel oil was rather a valuable by-product, and was used principally for solvent purposes, as well as for a special kind of varnish, being sold at \$1.22 a gallon. From the patent stills they ran the spirits continuously at a strength of 65 or even 69 overproof. That strength could not be obtained from pot stills. The spirit was reduced in strength only by the addition of water. The spirit was removed from the receiver to the spirit store under the locks of the excise authorities.

The quantity of spirits in store on which duty was paid last year was 1,286,912 proof gallons in England, 205,270 in Scotland, and 56,413 in Ireland. Irish whisky was more expensive than Scotch, partly because of the difference in the strength. Last year there were 6,055,285 proof gallons of British spirits methylated. The quantity of spirits now in bonded warehouses is stated as 10,897,109 proof gallons in England, 118,977,707 gallons in Scotland, and 31,773,593 gallons in Ireland. The amount of bonded whisky has been decreasing during the past four years. The export trade of British spirits is an important one, the quantity exported last year being 7,341,077 proof gallons, and the business seems to be on the increase. Patent-stilled spirit was cheaper than pot-stilled because of the larger proportion of corn which it contained.

GERMANY.

INCREASED QUANTITY AND VALUE OF WINE PRODUCTION FOR PAST YEAR.

Vice-Consul Joseph H. Leute, of Mannheim, furnishes the following information concerning the production of the German vineyards in 1907, based on the reports of specialists for the principal wine-producing communities of the Empire:

The production of the bearing vineyards in communities with an extent of 105,407 hectares (260,464 acres) was 2,208,660 hectoliters (58,346,271 gallons), an average of 21 hectoliters (554.76 gallons) per hectare (2.471 acres), or 224.5 gallons to the acre. The estimated

value of this production is 102,528,802 marks (\$24,401,855), an average of 46.4 marks per hectoliter, approximately 42 cents a gallon, and 974 marks (\$231.81) per hectare, or \$93.85 per acre.

Taking these figures for a basis, the production for the 13,174 hectares (32,553 acres) of bearing vineyards of the Empire not included in the foregoing reports would be 276,654 hectoliters (7,308,369 gallons) with a value of 11,991,139 marks (\$2,853,891). This would show a total production of 2,485,532 hectoliters (65,654,540 gallons) with a value of 114,519,941 marks (\$27,255,756) for the 118,581 hectares (293,114 acres) of bearing vineyards in the German Empire in the year 1907, the average value being 966 marks (\$229.91) per hectare, or \$93 per acre. In 1906 the area of productive vineyards was 1,626 hectares (4,017.9 acres) greater than in 1907, while the amount of grape juice produced was but 1,635,727 hectoliters (43,211,110 gallons) of a total value of 70,169,605 marks (\$16,700,366), an average of 584 marks (\$138.99) per hectare (\$56.26 per acre).

A comparison of the year 1907 with previous years shows that the amount of production was below the average, while its value was considerably above the average. For the 27 years for which the amounts of production in the Empire are known, the year 1907 takes fifteenth place and with its average of 2,485,532 hectoliters (65,654,540 gallons) scarcely comes up to the average for the other 26 years of 2,492,000 hectoliters (65,831,000 gallons). In point of average production per hectare, it likewise takes fifteenth place. On the other hand, for the 12 years for which the value of the production is known, it is in third place with its 114,519,941 marks (\$27,255,745). The average for the preceding 11 years was 94,800,000 marks (\$22,562,400). It has the same place in point of value of production per hectare. The year 1907 takes first place for the average value of a single hectoliter of grape juice.

INFECTION OF VINEYARDS.

INSECTS WHICH DESTROY THE VINES—METHODS OF EXTERMINATION.

Consul William J. Pike makes the following report from Kehl on the insect troubles which endanger German vineyards:

The destruction of vineyards by the annual appearance of insects affects the wine-growing districts of Alsace-Lorraine more than any other part of Germany, it is claimed. A year ago the vineyards seemed to promise the best yield for many years, when suddenly these destructive insects, which are peculiar to these vines, proved so disastrous that the wine business had a perceptible slump. No efforts have been spared to eradicate this great scourge, but to date no effectual remedy has been found, for the area infected is constantly on the increase.

In Alsace-Lorraine a conservative estimate places the area inflicted at one-fifth of all the vines in tillage. In Lorraine attempts have been made to root out this evil by the complete destruction of all the vines thus affected, but this method has become recognized as useless. The experiment of transplanting vines from America will soon be given a more thorough test. From the experiments already made along this line, it is thought that these vines will be immune to the insects, and that in this way the problem will be solved.

Some of the finest wines are produced upon the lands bordering the Mosel River in Prussia, which vineyards have, fortunately, as yet escaped the infection. It is feared, however, that they may also be subject to this danger, and on that account the Prussian Government is taking steps to carry on experiments looking to the annihilation of this serious and costly pest.

These contemplated measures consist in destroying all the vines along a narrow strip in northern Lorraine, which would separate the vineyards from those of the Mosel district in Prussia, in this way to prevent the possibility of the infection spreading to that section, as well as to save a considerable part of the vineyards in northern Lorraine, which have as yet not been affected.

MEXICO.

SMALL CONSUMPTION OF BEER IN THE CITY OF MATAMOROS.

In reply to an inquiry from the United States, Consul Clarence A. Miller reports that the consumption of beer in Matamoros amounts to only 10 or 12 carloads, of 300 cases of 5 dozen each to the carload, per annum, the greater part of this being consumed by American tourists, who visit the city in large numbers every year. All the beer consumed is produced in Mexico, there being no demand for any other. The Mexican population, largely of the working classes, drink very little beer; they can not afford such a luxury, beer being the dearest liquor sold in the country. Mescal costs but 3 cents a drink, American whisky and foreign wine 15 cents, while beer costs 25 cents a bottle.

[The names of two wholesalers and general importers of Matamoros, with whom the consul says American beer exporters might correspond, are filed for reference at the Bureau of Manufactures.]

MEAT PRODUCTS.

UNITED STATES.

NEW INSPECTION RULES AND REGULATIONS NOW IN FORCE.

The rules and regulations issued by the Bureau of Animal Industry in the Department of Agriculture, governing the inspection of meats and meat food products under the meat inspection law, took effect April 1. They provide against the use in interstate commerce and foreign commerce of meat unfit for food. All packing, canning, rendering, and similar establishments must be rigidly inspected. Exemption may be allowed to farmers or retail butchers supplying consumers. The following rules cover the most important features connected with the handling of meat products:

No trade label bearing the words "U. S. Inspected and Passed," or any abbreviation or simulation thereof, shall be used on meat or meat food products which have not been inspected and passed under these regulations, and no trade label bearing the inspection legend, or any abbreviation or simulation thereof, shall be placed upon meat or meat food products except under the supervision of an inspector.

Tin containers, embossed or lithographed with the label as prescribed in section 1, will be considered as bearing trade labels. On and after October 1, 1908, all sealed tin containers must have the number of the official establishment where packed, embossed, lithographed, or printed thereon.

The essential features of a trade label are as follows, and shall appear upon each label: The true name of the product; the inspection legend; the establishment number.

The inspection legend "U. S. Inspected and Passed," or an authorized abbreviation thereof, and the official establishment number in plain characters of uniform size, which shall be in proper proportion to the general lettering of the label, must be separately and prominently embodied in all trade labels.

In the case of meat contained in cartons, or in wrappers of paper, cloth, or other similar substance, the inspection legend and the official establishment number may be embodied in a sticker or seal of proportionate size prominently displayed with the trade label, but not necessarily a part of the trade label, such stickers or seals to be approved by the Department of Agriculture. It is not permissible to affix to meat or meat food products a detachable device of any kind which bears the inspection legend.

While labels to be affixed for foreign shipment may be printed in a foreign language, the same rules shall apply with reference to false labeling and the naming of ingredients as shall apply to goods prepared for domestic use. The inspection legend and the official establishment number must in all cases appear in English; but if desired they may in addition, literally translated, appear in the language of the country to which the package is destined.

USE OF DYES DEFINED.

Under regulation 22 the use of dyes, chemicals, and preservatives is provided for as follows:

There may be added to meat or meat food products common salt, sugar, wood smoke, vinegar, pure spices, and saltpeter. Only such coloring matters as may be designated by the Secretary of Agriculture as being harmless may be used, and these only in such manner as the Secretary of Agriculture may designate.

Substances necessary for the preparation, clarification, or refining of meat food products will be permitted to be used subject to the approval of the Secretary of Agriculture, provided they are eliminated from the meat food products during the further process of manufacture.

Meat or meat food products which have been inspected and passed and are so marked and are alleged to be unsound, unwholesome, or otherwise unfit for human food may be returned from one State or Territory or the District of Columbia to any jobber, wholesaler, or other dealer from whom the said meat or meat food product was purchased, if a written permit, in duplicate, for such shipment be first obtained from the Chief of the Bureau of Animal Industry.

In all such shipments both the original and duplicate copies of the permits shall be surrendered to the carrier accepting the meat or meat food product, and the carrier shall require the shipper to furnish two copies of the form of certificate hereinafter given. One of these certificates and the duplicate copy of the permit shall be retained by the carrier, and the other copy of the certificate, together with the original permit, shall be mailed by the carrier to the Chief of the Bureau of Animal Industry, Washington, D. C. If the meat or meat food product which is shipped under this section shall prove to be unsound, unwholesome, or otherwise unfit for human food it may not be reshipped in interstate commerce as a food product.

GERMANY.

PRICES ARE HIGH AND STEADILY ADVANCING.

In reply to inquiries, Consul-General Frank Dillingham, of Coburg, furnishes the following information concerning the number of animals slaughtered for food in Germany during the three months ended December 31, 1907:

Horses and other solipeds, 45,266; oxen, 153,201; bulls, 103,144; cows, 432,180; heifers, 273,572; calves, 1,043,084; hogs, 4,845,370; sheep, 603,160; goats, 139,794; dogs, 2,278.

In the statistics by States much more than one-half the animals slaughtered for all Germany was slaughtered in Prussia, viz: Horses,

30,145; oxen, 79,045; bulls, 65,924; cows, 259,967; heifers, 141,938; calves, 513,681; hogs, 2,927,329; sheep, 380,511; goats, 58,528; dogs, 506. Bavaria and Saxony, in their order, follow Prussia in the number of animals slaughtered. The dogs slaughtered in Saxony numbered 1,476, or nearly 65 per cent of the whole.

The prices of meats of all kinds in Germany are high and steadily advancing, and there is great suffering among the laboring classes because they are unable to buy the same oftener than once a week, and then only in limited quantities.

CANADA.

GREAT DEMAND FOR AMERICAN PACKING-HOUSE PRODUCTS.

Consul John E. Hamilton makes the following report from Cornwall on the growing popularity in Canada of packing-house products from the United States:

There has been a great demand in this consular district for American cured hams, bacon, and lard. Several large sales have been made, and the demand increases. This seems to prove that the hams, lard, and bacon cured in the United States are more appreciated than the Canadian products. The hams and bacon particularly are well cured, yet not dried up, and the lard is clear. Canadians can get these excellent goods for less money and can sell at lower rates, although having to pay a 2 cent per pound duty, as well as freight charges.

FLOUR MARKETS.

DENMARK.

STATISTICS OF PURCHASES—COMMERCIAL METHODS.

Consul-General Frank R. Mowrer, writing from Copenhagen, gives the following particulars of the Danish imports of flour:

Wheat flour is one of the chief articles of import into Denmark, owing to the limited quantity of wheat grown in the country. The following table shows comparatively the amounts imported:

	Sacks.	Pounds.		Sacks.	Pounds.
1901.....	276,000	60,720,000	1904.....	298,500	65,670,000
1902.....	303,500	66,770,000	1905.....	246,000	54,120,000
1903.....	352,000	77,440,000	1906.....	292,500	64,350,000

The increase was especially from the United States on account of the relatively low prices that prevailed until last year. In 1907, the quantity from the United States considerably diminished, owing to the price of \$6.33 per 220 pounds c. i. f. Copenhagen for the best quality, as compared with \$4.14 two years ago; while the price of an inferior quality increased during the same period from \$2.92 to \$4.62 per 220 pounds c. i. f. Copenhagen.

In addition to the importation of wheat flour for consumption in Denmark, an important transit trade is carried on by Copenhagen merchants with Finland, Sweden, and Norway. The free-port zone of Copenhagen offers excellent facilities for the storage and

transshipment of merchandise, which are utilized in handling large quantities of flour.

Orders for flour are usually placed for a certain quantity to be shipped within six months or a year, a sixth or a twelfth being delivered every month. It is said deliveries are often irregular, owing to delays in transit from interior points in the United States. The shippers decide on the route of transit, because quotations are made c. i. f., for acceptance of sixty or ninety day drafts on London against delivery of shipping documents. The bank commission for acceptance of these drafts is one-half of 1 per cent.

The principal demand of this market is for the better qualities of American flour, but at the prevailing prices this business is handicapped. [A list of important Copenhagen importers of flour may be obtained from the Bureau of Manufactures.]

GERMANY.

INCREASED CONSUMPTION BOTH IN QUANTITY AND PER CAPITA.

Statistics on the production and consumption of flour in the German Empire for the last fifteen years have recently been compiled, a summary of which is furnished by Consul William Bardel, of Bamberg:

According to these figures the production of flour in Germany, owing to the constantly increasing consumption of the same, has increased within the years 1893 and 1907 from 8,500,000 to 10,250,000 tons annually. This increase of production is attributable in the first place, to heavier consumption caused by increase of the population. Since 1893 the production of flour has been increased by 20.7 per cent, whereas the census shows an increase of 20.4 per cent in the population. In the second place, the increased production was brought about by a larger consumption of flour per capita.

The average per capita consumption of flour between the years 1893 and 1900 was 162 kilos or 357.145 pounds; whereas the annual consumption per capita from 1901 to 1907 increased to 165 kilos or 363.76 pounds. Of these 100 kilos or 220.46 pounds were rye flour and 65 kilos or 143.3 pounds were wheat flour.

During the last five years the production of flour in Germany remained the same, although the population continued to increase. The consumption of flour in Germany has been covered almost exclusively by home production, and the import of flour thus far is of little importance. It only amounts to 30,000 tons for wheat flour and 2,000 tons for rye flour.

BRITISH INDIA TEA.

AMOUNT SOLD AT LOCAL AUCTION IN EXCESS OF LAST YEAR.

Consul-General William H. Michael reports the close of the 1907-8 tea-selling season at Calcutta. At the 34 sales held up to February 15, 1908, 67,777,655 pounds were sold at local auction, as compared with 65,461,365 pounds during the same number of sales for the previous season. This increase of 2,316,290 pounds is considered satisfactory, as the total tea available during the season just closed was less than that of the previous season, and is set down to the fact that estates which formerly sent their product to London direct sent it this time to Calcutta.

FOREIGN FOOD SUPPLY.

PERCENTAGE OF IMPORTS INTO GREAT BRITAIN AND OTHER COUNTRIES.

In a statement presented to the British Parliament it appears that in 1906 the imports of wheat and wheat flour into the United Kingdom were 78 per cent of the total supply. In Germany the imports in 1905 (the latest year for which returns were available) were 35 per cent, and in France in 1906, 3 per cent of the total supply. It was stated that in the United Kingdom in 1906 imported supplies were of meat, about 47 per cent; of butter, 57 per cent, and of cheese 61 per cent of the total consumption. For France, the latest returns relate to 1892, and in that year the imports of meat were 3 per cent and of cheese 5 per cent of the total supply. Of butter there was a surplus exported. In Germany in 1906, under the old tariff, the imports of meat were 11 per cent of the total consumption. The United States has a considerable exportation of all these commodities.

The imports of wheat and wheat flour into the United Kingdom in 1906 were: From British possessions, 35,077,861 hundredweights (112 pounds each), of the value of £12,352,917 (£=\$4.86), and from foreign countries, 77,598,089 hundredweights, of the value of £27,140,481. The quantity of wheat grown in the United Kingdom in 1906 was 32,474,164 hundredweights, of which probably 85 to 90 per cent was directly used for food by the people.

COCOA IN BRAZIL.

ITS CULTURE IS BEING PLACED ON A SCIENTIFIC BASIS.

Alluding to the Brazilian crop of over 50,000,000 pounds of cocoa last year, Consul-General George E. Anderson writes from Rio de Janeiro as follows:

In spite of temporary setbacks now and then, due to special causes, the production of cocoa in Brazil seems to be growing at a satisfactory rate, the increasing exports of the product forming one of the promising features of the Brazilian agricultural and trade situation. The governor of the State of Para in his last message speaks of the industry as being in the most flourishing condition, and the immense increase in the world's demand seems to have more than made up for the increase in the world's production, notably the production of Brazil. At present Brazil leads in the world's production and the United States in the world's consumption.

The productive capacity of cocoa in Brazil is almost limitless. In Para and Bahia the cultivation of the crop is being placed upon a scientific basis and it is probable that the next few seasons will show an immense increase in Brazil's output.

AGRICULTURE.

CROPS AND FARM METHODS.

SPAIN.

RICE GROWING EXPERIMENTS GIVE LARGE YIELD AT VALENCIA.

Consul Charles S. Winans, in the following report from Valencia, shows the successful results of rice-growing experiments in that part of Spain:

The great interest taken in rice production in this region, the increasing home consumption and enhanced value of rice lands, which now command \$700 to \$1,000 an acre and let at a yearly rental of \$30 to \$45, induced the director of the Model Farm and Experiment Station of Valencia to give special attention to continual experiments with new varieties of seed imported mostly from Japan. The experiments of the past season were remarkable for the extraordinary yield of some varieties, constituting probably a world record in rice growing.

The following are the principal varieties experimented with, the dates of harvesting, and the net yield per acre of rice in the husk:

Varieties of rice.	Date of harvest- ing.	Yield per acre.	Varieties of rice.	Date of harvest- ing.	Yield per acre.
		<i>Pounds.</i>			<i>Pounds.</i>
Amonquill (a Japanese rice imported 16 years ago and now universally grown here)	Sept. 14	7,700	Japanese, late "Shirazu"	Oct. 30	8,580
Japanese, early "Wase"	Sept. 23	7,320	Japanese, early "Sh'n Shu"	Sept. 19	10,385
Japanese, medium "Samba"	Oct. 13	8,670	Japanese, medium "Sakitori"	Sept. 30	9,540
			Japanese, late "Taku Maru"	Oct. 4	9,180

To obtain these results the experimental plots were filled to the depth of 20 inches with soil of perfectly homogeneous composition, carefully mixed, giving the following analysis:

	Per cent.
Clay	18. 20
Sand	38. 45
Lime	29. 20
Organic matter	3. 03
Oxides of iron and alumina	2. 80
Molsture	2. 50
Undetermined substances and waste	5. 73

The chemical analysis of the soil was: Nitrogen, 1.04 per 1,000; phosphoric acid, 1.85 per 1,000, and potash, 1.83 per 1,000.

On March 15 the plots were irrigated and completely covered with water. On the following day the soil was upturned with spades and left under water until the 21st, when the seed was sown and again inundated with a shallow covering of water.

During the process of germination the seed was distributed by rough weather and high winds that swept the surface soil and young

plants against the sides of the inclosures, necessitating replanting of the greater part and consequent retardation of crop ten or twelve days. On May 28 the water was drained off and the plots left to the action of sun and air for eight days, when fertilizers to the extent of 700 pounds to the acre were applied, 350 pounds being superphosphates of lime, 262 pounds sulphate of ammonia, and 88 pounds potassic chloride.

The first ears of rice appeared July 18, and the experiment inclosures were then covered with netting to protect the grain from the ravages of wild fowl, particularly sparrows. The extreme care employed in these experiments would not be possible in rice growing on a large scale, as not a single grain, according to the director, was lost in cultivation and harvesting. It may be added that the date of harvesting of nearly all the varieties referred to is much too late for this district, as the enormous weather risks inseparable from late harvesting could not be compensated by the extra yield.

KOREA.

INDUSTRIAL MODEL STATION ESTABLISHED BY THE JAPANESE.

The following information concerning the establishment of an agricultural experiment station, combined with an agricultural college for the education of Korean farmers and the development of the resources of the country, is furnished by Consul-General Thomas Sammons, of Seoul:

The model farm and college, although initiated by the Japanese residency-general at Seoul, were later transferred to the Korean government. The institutions are situated at Suwon, 25 miles from Seoul, the capital of the country. Suwon is a walled city inhabited by about 10,000 Koreans and 1,000 Japanese.

The college buildings, equipped with a competent staff, are commodious and well built, and provided with physical and chemical laboratories. The dormitories had to be heated in the Korean manner, beneath the floors, in order to secure the attendance of Korean students. About 212 acres of land are used for experimental purposes, and \$44,000 is annually appropriated to maintain the institutions.

The main experiment station is equipped along modern lines. The various seeds, cereals, and roots; crop-destroying birds, insects, and reptiles; grass-cloth mats, leaf growths, cotton, tobacco leaves, peanuts, millet, etc., are suitably exhibited. Modern agricultural implements are also on exhibition.

TO INCREASE THE COUNTRY'S PRODUCTS.

In the nine months during which the station has been in operation it has experimented with sugar beets, rice, cotton, barley, silkworms and mulberry trees, farm animals, rye, and wheat, besides serving as a meteorological station. The experiments with cotton and silkworms are considered as opening up a great future to the Korean farmers. Grass cloth is also thought by the managers to be one of the main products of the future, while beans and tomatoes are favorably considered. Foreign cottonseed is being distributed through the country with excellent results. The juice secured from the Korean beets averages 13 per cent of sugar, with a purity of 88 per cent. It

is feared, however, that the droughts will constitute a formidable hindrance to the sugar-beet cultivation. The rice experiments have been very successful and of singular interest to the Korean farmers, rice being one of the chief crops of the country. Korean wheat, although inferior, grows well. The foreign wheats introduced at the station were killed by the extreme cold of the winter months, but the Japanese professors still hope to be able to introduce them into the country.

Notwithstanding the favorable experiments for Korean silk, it will take many years before it reaches a state anything like perfection, on account of its yellow color and crudity, the mulberry trees being large and uncultivated. But as it is thought that the mulberry tree was first introduced into Japan from Korea, and as the Japanese in charge point out that they can recall when Japanese silk was as crude as is the Korean product, they are hopeful for the industry.

The experimenters find that tobacco grows better in Korea than in Japan, but the leaf does not come up to the high American standard.

BRITISH INDIA.

BETTER SEED AND BETTER METHODS OF CULTIVATING THE SOIL.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the efforts being made by the governments of India for the betterment of the farmers:

The central and local governments of India are doing a great deal in various ways to help the farmers. A circular of the Bengal department of agriculture, recently issued, referring to the Bengal seed store, located in Calcutta, says that this store was opened to meet a long-felt want. It was established to cooperate with different provincial farms where definite varieties of seed are grown. After deducting the farm's own requirements for the ensuing season the seed is sent to Calcutta, where it is cleaned, tested, and stored in rat-proof bins, specially designed for keeping the seed clean and dry. In all transactions it was decided that local rates would be charged, the government bearing the expense incurred by rent of depot and the charge for running the establishment. The buyer therefore gets all the benefit of tested seed of a known variety at usual rates. The report says:

In all 88,354 pounds of seeds were distributed during 1907, without including sugar-cane cuttings. On an average 21 pounds of seed will give sufficient seedlings to transplant 1 acre of rice, and 60 pounds is sufficient for broadcast cultivation, and we supplied 11,520 pounds of seed (i. e., sufficient) for 814 acres. The area for 1907 in Bengal under rice (Aman and Aus) was 24,201,500 acres. Therefore the field is vast enough for many private undertakings. Next, 21,280 pounds of jute seed was distributed, and the area under jute in 1907 for Bengal alone was 931,100 acres. Now, 9 pounds of seed are required per acre, therefore we were responsible for 2,364½ acres.

Besides seeds, we store at the godown a few fertilizers for the use of cultivators, who may obtain small quantities at the lowest market rates. We must state, however, that artificial manures are not yet appreciated by the farmers, and, except by experimental stations and a few planters, very little seems to be used in Bengal. When we consider that in 1905 more than 1,500,000 tons of nitrate of soda alone were used as manure, chiefly in Europe and America, the development in this branch seems inestimable. In addition to seeds and manures a few improved implements are stocked, but work in this branch is hampered for want of accommodation and a testing place where implements could be properly tested in a practical manner before being sent out.

BOHEMIA.

SMALLER YIELD OF GRAIN, BUT MUCH MORE MONEY REALIZED.

Consul Joseph I. Brittain forwards from Prague the following report on the grain production of Bohemia for the year 1907:

Owing to the unusually late season last year and the extremely wet weather the production of the various kinds of grain was not up to the average. The quality, however, was good and the prices realized were correspondingly high. From the present prices received for the various kinds of grain it would appear there is an opportunity for exporting from the United States. The price of wheat on March 11 was \$4.60 per 100 kilos, or 220 pounds, and of rye \$4.28. The following statistics show the yield of grain in Bohemia for the past three years, and for the ten-year average, 1897 to 1906:

Crop.	1907.	1906.	1905.	1897-1906.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Wheat.....	425,680	439,570	363,070	342,910
Rye.....	866,580	790,510	733,280	621,910
Barley.....	582,440	657,180	533,710	593,490
Oats.....	741,880	760,890	448,200	546,600
Total.....	2,616,580	2,648,150	2,078,260	2,104,910

The 1907 crop of grain was valued at \$111,000,000, and that of 1906 at \$83,000,000. The following table shows the value of other agricultural products in Bohemia during the years 1906 and 1907 and the average for the past ten years:

Crop.	1907.	1906.	1897-1906.	Crop.	1907.	1906.	1897-1906.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>		<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Potatoes.....	3,714,240	3,738,830	3,080,190	Cabbage.....	318,130	197,530	104,530
Sugar beets..	4,004,120	3,994,770	3,636,570	Poppy seed..	6,180	3,610	1,850
Vegetables....	72,490	58,800	54,010	Clover hay....	1,452,350	1,162,340	773,680
Rape seed....	13,330	14,110	15,350	Other hay....	1,784,580	1,723,060	1,250,980
Flax.....	11,590	16,470	14,900				

TRINIDAD.

PROFITABLE RETURNS FROM BOTH COCOA AND SUGAR.

Consul Wm. W. Handley makes the following report on the successful cocoa and sugar crops last season in the West India island of Trinidad:

This island's cocoa crop for the calendar year 1907 was a very full one. Official figures show an export of 41,038,204 pounds, an increase over the previous year of 12,409,660 pounds. The crop was valued at approximately \$8,900,000. Of this amount \$1,300,000 is to be credited to Venezuelan cocoa, which was brought here in small boats from that country to be prepared and shipped to foreign markets. Of the 251,755 bags of cocoa shipped from Trinidad, 114,749 went to New York; 134,611 to Europe (principally France); and 2,388 bags to Canada. Considering the high prices that the produce has realized it is a very gratifying crop. For the month of January 46,139 bags were exported, which is very nearly treble the output for January of the previous year.

The present outlook for a large crop during 1908 is encouraging. Considerable interest has been manifested here, the past year, by both

the government and the cocoa planters in making a strong effort to eradicate the fungus diseases and insect pests affecting the cacao trees. The planters are giving more attention to the treatment of the soil, cover crops, shade, wind belts, pruning, etc., and endeavoring not only to maintain the high market position which Trinidad cocoa has enjoyed for some years, but to improve it.

The sugar crop for the year 1907 was satisfactory. The eighteen plantations in Trinidad produced 50,564 tons, which is 12,411 tons less than the previous year's record crop. The Usine St. Madeleine turned out 13,591 tons. There were 6,557 East Indians (coolies) and 5,777 West Indian laborers employed in gathering the crop. England and Canada share the market for Trinidad sugar. There were 175,732 bags shipped to England and 244,759 bags to Canada. None was exported to the United States, although a considerable quantity was shipped to Canada via New York.

KONGO FREE STATE.

TOBACCO CULTIVATION—POSSIBLE COMPETITION WITH AMERICA.

Consul-General Henry W. Diederich, writing from Antwerp, says that the soil in certain parts of the Kongo Free State has proved very favorable for the cultivation of tobacco, the prospects for which he discusses as follows:

Stanley refers to this fact in his reports, in which he says that he saw throughout the Dark Continent the tobacco plant, and that a large portion of the population made use of the weed. From experiments made it has been shown that the plant grows in abundance in the Free State and that certain species have a peculiar flavor of balsamic nature hitherto unknown. The Kongo tobaccos are destined to be successful not only for the cut varieties, but also for the manufacture of cigars.

The Belgians, who are essentially a cigar manufacturing people, have devoted much time to the improvement of the Kongo product and expect to compete to advantage on the European market with American tobaccos. It is expected that before long tobacco will constitute one of the most important resources of the African Continent. The tobacco trade is frequently disturbed by the constantly increasing prices of foreign tobaccos and many merchants are looking forward to the advent of the Kongo product in greater quantities to more nearly equalize supply and demand.

UNITED KINGDOM.

EXCELLENT YIELDS OF THE VARIOUS CROPS FOR THE PAST YEAR.

Consul Robert J. Wynne sends from London the following published statistics of the British crop yield in 1907:

According to the official returns of produce of crops in Great Britain, published by the board of agriculture, the summer of 1907 was a most productive one and in most respects proved superior to the average summer for the previous ten years.

Although the total amount of the various crops was in some cases exceeded in 1906, the total yield per acre last year was, with two exceptions, far greater than that of the preceding year or than the ten-yearly average.

Only the potato and the hop crops fell short of the ten-yearly average in 1907; all the rest far exceeded it, and the yield of oats constituted an actual record.

The following table shows the yield per acre of the various crops last year, as compared with the average yield for the preceding ten years:

Crop.	Yield in 1907.	Average 1897-1906.	Crop.	Yield in 1907.	Average 1897-1906.
Wheat.....bushels..	33.96	31.22	Turnips and swedes...tons..	14.13	13.15
Barley.....do.....	35.28	33.14	Mangold.....do.....	19.86	19.17
Oats.....do.....	48.04	39.29	Hay, clover, etc.....cwts..	32.97	29.56
Beans.....do.....	34.50	29.50	Hay, permanent grass.do..	27.23	23.99
Peas.....do.....	29.44	27.10	Hops.....do.....	8.33	8.81
Potatoes.....tons..	5.42	5.75			

Although the yield per acre was so abundant, the total yield in many cases fell short of the 1906 aggregate, as the following table will show:

Crop.	1906.	1907.	Crop.	1906.	1907.
Wheat.....quarters..	7,577,000	7,006,000	Turnips and swedes...tons..	27,583,000	26,181,000
Barley.....do.....	8,435,000	8,387,000	Mangold.....do.....	9,881,000	10,118,000
Oats.....do.....	21,859,000	22,961,000	Hay (all kinds).....do.....	13,512,000	15,603,000
Potatoes.....tons..	6,089,000	5,224,000			

The report considers the fine harvest as partly attributable to the healthy seeds produced by the crops of the hot summer of 1906, and it also points out that the fine weather of last September was in many cases the salvation of the farmer.

AUSTRALIA.

POSSIBLE PRODUCTION OF VARIOUS ARTICLES FROM THE PRICKLY PEAR.

Consul-General Orlando H. Baker, of Sydney, New South Wales, furnishes information concerning the prickly pear in Australia and the counter opinions prevailing as to whether it should be eradicated as a pest or cultivated for its commercial uses:

The invasion of the prickly pear, which has rendered thousands upon thousands of acres of good pastoral and agricultural land in New South Wales and the adjoining States useless, is a problem that has been brought more to the front of late by the big bonus offered by the Queensland government for an effective means of eradicating the pest on a wholesale scale. At the same time, there is a question of whether this seeming pest has not its commercial uses. Regarding the subject from this point of view, a Brisbane chemist has, as a result of experiments, accumulated quite a number of means of turning the prickly pear to useful and highly remunerative account. He sees in this despised plant commercial possibilities quite alluring, and calculated rather to encourage its cultivation than its ruthless destruction.

In his report the Brisbane chemist gives a number of uses to which the prickly pear may be put. Among them he names alcohol, tests showing that 7 gallons could be secured from a ton of prickly pear; feed cake for stock feeding; strawboard and paper; and pulp, which may be pressed by hydraulic force into household articles, floor cloth, etc. Prickly pear also contains much saccharine matter which makes an excellent sugar. [The most practical use yet found for the prickly pear of the southern portion of the United States has been for stock feeding. The Department of Agriculture is encouraging the employment of a plumber's torch to scorch off the spines; when this is done it makes such an excellent food for cattle that they may be sustained on it alone, without other food or water, for many months through a dry season.—B. of M.]

THE AZORES.

HIGH PRICES OF CORN AND PROHIBITION OF EXPORTATION.

Consul John F. Jewell, of St. Michaels, under date of March 23, reports as follows on the corn shortage in the Azores, indicating that it may be necessary to make importations:

On account of the great increase in the price of corn, and in view of avoiding a possible crisis in the supply of this article of food, owing to its present scarcity and the probable shortness of this year's crop, the civil governor has issued a decree prohibiting the exportation of corn from St. Michaels. It is unofficially reported that the same conditions prevail in the other Azorian islands as at this place.

Corn is grown in abundance in ordinary years, and in addition to being the principal article of food of the rural and laboring classes, is largely exported to Lisbon. An unusually large quantity was shipped the past year. The present price in St. Michaels is equivalent to \$1.25 to \$1.35 per bushel. It is feared that the price will increase and suffering result among the poorer classes as a consequence. There is enough for present needs if economy is practiced; but during the past three months the rainfall has been light and the corn planted is very backward. Rain is at present greatly needed and a short crop is feared if the drought continues.

PHILIPPINE ISLANDS.

NEW OIL-MAKING MATERIAL OF COMMERCIAL VALUE.

Consul Robert P. Skinner advises that sample lots of nuts, known in Manila as "lumbang" nuts (*faux baucoulier abrasin*), and kimiré nuts in Java have been received in Marseille, and have produced an oil closely resembling linseed oil. It is stated that these nuts are worth about 30 francs per 100 kilos (\$5.79 per 220 pounds) in Marseille, as against 41 francs (\$7.91) for small white Bombay sesame seed, 33 francs (\$6.37) for shelled arachides, and 30 francs for palm-kernels and Illipi nuts. This new oil-making material appears to have a positive commercial value, and deserves attention at the hands of Philippine exporters and American oil crushers.

CATTLE RAISING IN BELGIUM.

THE OCCUPATION AN IMPORTANT INDUSTRY IN THE KINGDOM.

According to information furnished by Consul-General Henry W. Diederich, of Antwerp, Belgium has an abundance of excellent pasturage, and the raising of cattle forms an important occupation of the people. He writes:

The country is noted for four of its breeds of cattle—the Blue breed, the Flemish, the Ardenne, and the Condroz. The Blue cattle are raised in Brabant and Hainaut. They thrive best in the warmer climates or hilly countries, where the cold is not excessive. The cow gives 3,600 to 4,000 liters (1 liter=1.0567 quarts) of milk per annum, and 25 to 30 liters yields 1 kilo (2.2 pounds) of butter. The characteristics of the Flemish cattle are the same as those of the Blue, save that the oxen are very strong and highly prized for field labor.

The Ardenne cattle are raised in the mountainous parts of Belgium, and are of the greatest interest to American cattle breeders, because, although not so well developed as the preceding breeds, they are easily acclimatized. The cow gives 1,600 to 2,500 liters of milk per annum, and 26 to 29 liters of the milk yield 1 kilo of butter. The meat is in much demand for its fine flavor. The Condroz cattle combine the characteristics of the Blue and Ardenne breeds. The cow gives 2,500 liters of milk per annum, of which 25 to 30 liters yield 1 kilo of butter.

In addition to pasturage Belgium cattle are freely fed on prepared fodder, according to approved formulas, and it has been proved that each animal gives a profit in proportion to the kinds and quantities thus fed to it.

DAIRYING IN SYRIA.

EXCELLENT OPPORTUNITY FOR AMERICAN CREAMERY IN ASIATIC TURKEY.

Consul-General G. Bie Ravndal writes from Beirut that in Syria there is not a single dairy, and the need of such is strongly felt by foreign residents. He states that the following suggestions addressed to him by a prominent American in that city have his approval:

I would like to call your attention to the great opportunity of operating an up-to-date dairy plant in this region. If an American firm could be persuaded to establish a dairy and creamery fitted up with the latest appliances, in central Syria (the Beka plain), I believe the venture would be successful from the beginning. It could supply the cities of Beirut and Damascus with milk, cream, butter, and cheese. There are many institutions, colleges, convents, hospitals, tourists' hotels, etc., which would undoubtedly purchase the products from such a concern. At present, you know, the butter supply is insufficient, and in addition to that imported from Denmark or Italy there is a further strong demand for a high quality of not only butter, but also other dairy products of local origin. Here is a promising field for an enterprising American company.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

BRAZIL.

SYSTEM CENTERING AT SAO PAULO—THE NEW NORTHWEST ROAD.

The following information concerning the conditions of the railways centering at Sao Paulo, and the new road which is to run through an unexplored country, is furnished by Deputy-Consul-General Joseph J. Slechta, of Rio de Janeiro:

When the American-Canadian syndicate took over the Sorocabana Railway, in the State of Sao Paulo, speculations arose as to how far the syndicate's influence would extend toward dominating the entire railway situation in Southern Brazil. A brief outline of the railway systems centering at Sao Paulo may help to explain a critical situation. The city of Campinas, 50 miles northwest of the city of Sao Paulo, is the point of concentration of the Mogyana system, which, with the possible exception of the Leopoldina, has the greatest mileage of any railway in Brazil. The main trunk of this system parallels the eastern border of the State of Sao Paulo and extends into the western portion of the State of Minas Geraes, and is being rapidly extended in conformity with the plans to tap the southern and central portions of the great State of Goyaz. The branches of this system extend to or across the border of Minas Geraes, along the south and east, and recently the system has acquired interests in some of the smaller railways in western Minas Geraes. It is reported to have purchased the Muzambinho Railway, which connects with the Minas & Rio, a Government line. The Mogyana can, by extending a branch running from Casa Branca to the border of Minas Geraes, connect with the Muzambinho, and thus give direct communication between the north of Sao Paulo and Rio de Janeiro. Plans are under way for the construction of this connecting link.

THE PAULISTA AND SOROCABANA LINES.

Thirty miles northwest of Sao Paulo is the city of Jundiahy, whence runs the main line of the second system, the Paulista Railway. Its main trunk is more or less a parallel line to that of the Mogyana, and its branches extend on each side into the territory more or less tributary to the Mogyana and the Sorocabana systems. Its main line from Campinas to Jundiahy is fed by its own system and that of the Mogyana, but neither of these systems have lines running into the city of Sao Paulo, as has the Sorocabana, goods from both lines being transferred at Jundiahy to the Sao Paulo Railway, which monopolizes the traffic from Jundiahy to Santos.

The Sorocabana is the only one of the three systems having direct access to the city of Sao Paulo, but is dependent upon the Sao Paulo

Railway to get its freight to the seaboard. The Sorocabana has a main line running west and a little north of the city of Sao Paulo, The most important branch runs to the northward and parallels the main line of the Paulista. A short branch running southward, having its present terminus 75 miles from the northern border of Parana, is to be extended into the State of Parana, and together with other lines now in operation, with which connection is to be made, will constitute the Sao Paulo-Rio Grande do Sul Railway, giving rail communication between Rio Grande do Sul and Soa Paulo and Rio de Janeiro.

These three principal systems of Sao Paulo have, until quite recently, been in keen competition with one another. Now, however, they seem to have come to the conclusion that they have many interests in common and particularly that they are mutually interested in a settlement whereby they may acquire a share in the profits of transportation to the seaboard.

EFFORTS TO HARMONIZE THE SYSTEM.

A recent indication of the harmony of interest manifested on the part of the three systems is an agreement entered into by the directors of the Sorocabana and the Paulista railways, whereby the former is to construct a branch from Itaicy, a point on the north branch of the Sorocabana, to Campinas, which is the southern terminus of the Mogyana. This projected branch would give connections with the narrow-gage lines, and enable both the Paulista and Mogyana railways to ship directly into Sao Paulo without transfer to the broad-gage line of the Santos-Sao Paulo, running from Jundiahy to the city of Sao Paulo. TheMogyana shows an intention to build a line from Itaicy or other convenient point to Santos, which would give an outlet to the seaboard for all three systems.

This procedure has already brought the Sao Paulo Railway to the point of offering terms of conciliation in the shape of a promise to abandon some projected extensions, to give 10 per cent of freight charges on all goods carried between Jundiahy and Sao Paulo, transferred to or from the Mogyana Railway, and to further favor the latter by special rates. The Mogyana has refused to accept the terms, indicating that the intention is to either go on with plans for the extension to Santos or to force the Santos-Sao Paulo Railway to offer still more favorable terms. In the meantime, rates between Santos and Sao Paulo are kept very high and the pressure on the Sorocabana is great to induce its new control to extend a line to the seaboard.

BROAD GAGE BETWEEN RIO AND SAO PAULO.

The President of the Republic made a special visit to the city of Sao Paulo this week to be present at the inauguration of the final section of the broad-gage railway between the Federal capital and the capital of the State of Sao Paulo. The work of substituting the broad gage for the narrow gage on this, the main trunk of the Central Railway of Brazil, has been going on for many years and its completion provides for much faster and altogether better service between Brazil's two largest cities.

Inauguration ceremonies have also marked the opening of traffic on extensions of two branches of the Sorocabana Railway, both of whose terminals have been pushed nearer to the border of Parana.

The southern branch is to connect at the Parana River with the Rio Grande do Sul and Sao Paulo Railway, which is being rapidly extended northward across the State of Parana.

THE NORTHWEST RAILWAY.

About two years ago work was begun by a French company under contract with the Brazilian Government in connection with the construction of the railroad known as the "Noroeste." The importance of this railway, as at present planned, bids fair to outrank any railway enterprise undertaken in South America within recent years. The initial station of this road is Bauru, the present terminus of the northwest branch of the Sorocabana Railway in the State of Sao Paulo, whence the line extends northwestward. There is now 110 miles in operation, serving a territory which two years ago was virgin and scarcely well explored. Surveys are completed to the point where the railway is to cross the Parana River, which forms the boundary line between the States of Sao Paulo and Matto Grosso. The road to this point is to be in operation within two years. From the Parana more or less definite surveys have been made northwestward across the southern part of the State of Matto Grosso to Corumba, on the great Paraguay River, which separates Brazil and Bolivia.

The original intention was to extend the line from the Parana River to Cuyaba, a point nearer the geographical center of Matto Grosso, but this plan has been modified in view of the evidently superior position of a terminus on the Bolivian border and on the great stream forming the boundary line between the two countries. It is now practically certain that the present administration will push this work to a conclusion before the inauguration of a new régime. This means that within two and one-half years 400 miles of railway are to be constructed and put into operation through a country wholly unexplored, several streams of continental importance must be bridged, marsh lands encountered, and the difficulties incident to carving a way through virgin and all but impenetrable forests overcome.

IMPORTANCE OF ROAD—WATER POWER—COST OF CONSTRUCTION.

The economic and political importance of such an achievement in railway construction may be seen after a glance at the map of South America. Corumba, the objective point of the railway, is in almost the geographical center of the continent. Its position on the river Paraguay gives it the same strategic importance relative to South America as is held by St. Louis in the United States. Tributary to railroads at this point would be territory covering an empire in extent, with favorable climatic conditions and with untold wealth of natural resources. The only intercourse which the Brazilian capital has with this region at the present time is via Buenos Aires and the river Plata, going thence by river boat up the Parana and the Paraguay, necessitating, at the least, a journey of three weeks. The projected railway would place the Federal capital within forty-eight hours of this point at the heart of the continent.

The railway will cross the Parana River within a few miles of the junction of that river and the River Tiete. Each of these rivers has at this point a magnitude approximately equal to that of the Mississippi at any point above its confluence with the Missouri. Within a few miles also of the point on each of these streams where the

railway will cross, each of these great rivers is broken by water falls 45 feet in altitude, having a volume of water said by the head of the Brazilian geological service to rival that of Niagara Falls, capable of furnishing power to the extent of millions of horsepower units. Here is a position which offers opportunity certainly for twin cities of the South American continent which may be destined to outrank the great industrial centers at the head of navigation on the Mississippi River.

The contract under which the company is to construct this railway provides a guaranty on the part of the Federal Government of earnings of 6 per cent on the amount employed in construction up to \$16,380 per kilometer (0.62 mile) for the section to the Parana River, and up to \$20,748 per kilometer for the remaining stretch of the road. At these figures the probable cost of the railway will not fall far short of \$20,000,000. The French company obligate themselves to operate the railway for a short term of years, so that the Government evades the responsibility connected with the preliminary expense of putting the road into operation, and possibly loss incidental to operation during the period preceding the adjustment of the population to new opportunities offered in the territory tributary to the railroad. The contracting company has expressed a willingness to double and, if necessary, treble the present forces in order to complete the entire project within the allotted time of thirty months.

CHINA.

RESTORATION OF SOUTH MANCHURIA ROAD TO NORMAL CONDITIONS.

In transmitting a translation of the report of the South Manchuria Railway Company for the six months ended September 30, 1907, presented to the stockholders in Tokyo on December 14, Consul Roger S. Greene, of Dalny, furnishes the following information concerning the restoration of the road to normal conditions:

It was decided to rebuild the road on the standard gage (4 feet 8½ inches), and to equip it with new rolling stock. By order of the Japanese Government a double track was to be laid from Dalny to Suchiatun.

The length of line operated varied during the six months, but averaged 708 miles, and the business done was as follows: Freight, 85,141,192 ton-miles; passengers, 66,862,928 passenger-miles; at the average rates of 1.338 cents per ton-mile and 1.337 cents per passenger-mile, both these amounts being in American currency.

When the transition stage is over, as it should be within a year, a marked increase in efficiency may be looked for, and it will then be possible for the company to develop its coal business, of which great things are expected as soon as sufficient transportation can be provided.

AMERICAN ROLLING STOCK—INCOME AND EXPENDITURE.

For use in this reconstruction and for reequipping the road 50,950 tons of steel rails and accessories, 7,422 tons of bridge materials, 205 locomotives, 2,040 freight cars, 72 passenger cars, and 123 cabooses and mail and baggage cars were ordered and have been arriving since

last spring. All of this material was from the United States, with the exception of 980 freight-car bodies built in Japan. Pending the rebuilding of the road and the erection of the new rolling stock it was necessary to work as economically as possible with the old material, which is soon to be discarded.

The gross income from the railway and allied enterprises during the six months ended September 30, 1907, was \$2,491,224, while the expenses amounted to \$2,028,783, leaving a profit of \$462,441, of which \$122,722 was carried to reserve funds, \$29,880 was distributed to the stockholders, with the exception of the Government, as a dividend at the rate of 6 per cent; \$39,840 was set aside for "specific expenses," and the remainder carried forward to the next account. Of the total income \$2,038,525 was from the railway proper, \$322,238 from the Fushun coal mines, and the remainder from the wharves, hotels, electric plant, land rentals, etc. Of the total issue of 600,000 shares, at 200 yen (\$99.60) per share, 500,000 are held by the Japanese Government, in the name of the Minister of Finance, while the remaining 100,000 are divided among 7,354 persons. Practically all the shareholders are Japanese, there being among them only about 25 Chinese, mostly domiciled in Japan, whose combined interests amount to about 500 shares.

The bonded indebtedness of the company is limited to the loan of £4,000,000 (\$19,466,000), which was floated in London in July last, and brought £3,700,000 (\$18,006,050. [The complete report of the transactions of the road during the six months referred to and the address of the president to the stockholders are on file for reference in the Bureau of Manufactures.]

THE SHANTUNG RAILWAY.

SUCCESSFUL BUSINESS TRANSACTED BY THIS GERMAN ENTERPRISE.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information concerning the Shantung Railway of China, and the business transacted thereon in 1907:

The Shantung Railway is purely a German road, built with German funds, German engineers, material, and rolling stock. The contractors were Chinese. The cost of the road was \$44,489 gold per mile. In granting the right to build the road China reserved the right to purchase it at the end of sixty years, or at the close of five-year periods, for twenty-five times the amount of average dividends paid during the previous five years, or at least the value of the existing plant.

The railway was built with the object of connecting Tsinanfu, the capital of Shantung Province, with the coast at the German port of Tsingtau, as well as to bring the product of the coal mines to the coast.

BUSINESS—RECEIPTS AND EXPENDITURES—PASSENGER RATES.

During the year 1907 393,800 tons of cargo were carried by the road, an increase over the year 1906 of 25,800 tons; 886,000 passengers were carried, an increase over the year 1906 of 63,000 passengers, and an average of 2,427 passengers per day.

The principal freight carried over the line was as follows, in tons: Inland—coal, 102,165; cotton goods, 17,445; kerosene, 14,752; min-

ing timber, 8,250; sugar, 7,200; paper, 6,907; coke, 7,680; wood, 5,670; iron and ironware, 4,252; rice, 3,127; mining material, 3,007. Brought toward the coast—coal, 103,140; beans, 20,610; salt, 9,082; pots and pottery, 4,732; straw braid, 4,080; coke, 3,585; oil, 2,542.

The receipts in 1906, reduced to United States currency, amounted to \$1,010,706, and the expenditures to \$424,870, and a dividend of 4½ per cent was paid to the stockholders. The passengers rates on through run to Tsinanfu are approximately as follows per mile: First class, 2.5 cents; second class, 1.3 cents; third class, 0.4 cent gold; baggage, extra.

LENGTH, GAGE, AND BRIDGES—COUNTRY TRAVERSED.

The Shantung Railway has a main line of 256 miles, running from Tsingtau via Kiaochow, Kaomih, Weihsien, Ch'angloh, Ts'ingchowfu, Chowtsun, to Tsinanfu. A branch leaves the main line at Changtien and runs to the coal mines located at Poshan, a distance of 27 miles. The road has a standard gage of 4 feet 8½ inches, is single track, with rails of 66 pounds and iron ties of 110 pounds each. The embankments are about 16 feet wide, sufficient for a double track, and are rock ballasted 12 inches deep. There are no tunnels on the road, but 955 bridges were necessary. The longest bridge crosses the Tseho and is 1,550 feet in length.

The country traversed by this line is the most densely populated in China. The province contains 38,247,900 inhabitants, or 683 to the square mile. The agricultural products are abundant and consist of millet, corn, barley, sorghum, maize, peas, cotton, hemp, and the opium poppy. There are numerous fruit trees, pears, apples, peaches, apricots, plums, grapes, and jujubes. A great quantity of silk is produced, the woven stuff being called pongee, from raw material produced by worms fed on oak leaves. Besides coal, iron, copper, argentiferous lead ore, gold, diamonds, gypsum, clay, and sandstone are found in the province. The capital is a city of 100,000 inhabitants. It was formerly famous for its silks and imitation precious stones. Now it is the great commercial center of western Shantung, a vast trading mart, but not a manufacturing center. A highway connects the city with the Yellow River, 4 miles away. [A map of the province of Shantung and photographs of bridges on the Shantung Railway, which accompanied Consul Gracey's report, are filed in the Bureau of Manufactures.]

THE TIENTSIN-PUKOW RAILWAY.

LOAN SANCTIONED FOR THE CONSTRUCTION OF NEW GOVERNMENT LINE.

Consul-General James W. Ragsdale, of Tientsin, transmits a translation of the agreement between the British and Chinese Corporation (Limited) and the Chinese Government, whereby the latter sanctions the issuance by the German and British Banks Syndicate of a loan of £5,000,000 (\$24,332,500) for the construction of a Government railway from the vicinity of Tientsin to connect the existing Peking-Shanhaikwan line via Techow, Chinanfu to Ihsien, along the southern boundary of Shantung. This line will hereafter be known as the northern section of the Tientsin-Pukow Railway. The line from Ihsien to Pukow on the banks of the Yangtze opposite Nankin shall

hereafter be known as the southern section of the Tientsin-Pukow Railway. The total distances of the two sections is 674 miles. [The translation of the agreement is filed in the Bureau of Manufactures.]

BRITISH INDIA.

PROPOSITION FOR INCREASING EFFICIENCY OF SOUTH INDIAN LINE.

According to a Madras newspaper quoted by Consul-General William H. Michael, of Calcutta, the South Indian Railway has recently made some important propositions to the government, the object of which is to increase the capital of the company in order to improve its property and to increase the efficiency of its service. Mr. Michael further summarizes:

This increase of capital could be obtained in the open market without government guaranty at satisfactory rates to shareholders, according to the chairman of the board of directors in England and the manager in India, provided the concern were placed on the footing of an ordinary limited liability company with proprietary rights in the property. The board points out that all that is necessary is a new enlarged company. Financial people of undoubted standing are understood to have already offered to underwrite all the capital likely to be required.

The plan now before the government of India and the secretary of state, if they approve it, can be introduced immediately in the case of the South Indian Railway, as the contract of this line runs out in 1910, and arrangements can be made to expedite the lease. It is equally applicable to other lines, where it could be introduced gradually as contracts terminate, if it proves successful. The project differs from others that have been put forward to the same end in not requiring the government to part with its investments in railways. These investments relieve the Indian taxpayer to an appreciable extent.

CANADA.

EXTENSION OF LINES THROUGH THE PROVINCE OF ONTARIO.

Consul E. A. Wakefield, in the following report from Orillia, describes the progress in railway building in the Canadian province of Ontario:

On June 15 next service on the Toronto to Sudbury Canadian Pacific Railway line will be inaugurated, which is expected to make a decided difference in freight and passenger traffic to Winnipeg and western points from Toronto and Buffalo. This change practically puts Toronto on the main line of the Canadian Pacific Railway and means a saving of eight hours between Toronto and Winnipeg.

The Canadian Pacific Railway is still pushing work on the Peterboro to Victoria Harbor (or Midland) branch, but the date of its completion is not mentioned as yet. The James Bay Railway (McKenzie & Mann system) has been granted a charter to build from the main line near Orillia to some point not yet named on the Georgian Bay. The Ontario government is to guarantee bonds issued for the construction of this branch (30 miles long) to the amount of \$2,500,000. The Grand Trunk Railway is preparing to double track the Midland Division from Midland to Port Hope (150 miles)

during the present summer. In fact work has already begun on this undertaking. These items are indicative of the activity in railway circles in this district and illustrate the importance the lake and rail grain traffic is expected to assume in the future.

RAILWAY CROSS-TIES.

GERMANY.

EXPERIMENTS FOR THEIR PRESERVATION BY STERILIZATION.

The following translation of an article published in a leading German journal is furnished by Consul William C. Teichmann, of Eibenstein:

With the gradual diminution of the world's timber supply the problem of substitution for the wooden cross-tie in railroad construction is being given increasing attention in the railway world. Already the steel cross-tie is being introduced here and there in Europe, but the idea still prevails that by impregnation with certain chemicals the decay of the wood cross-tie may be prevented to a degree rendering it far more useful and financially preferable than the metallic substitute.

Important experiments have recently been conducted under the supervision of the management of the French Government railways for the purpose of determining the effect of sterilization of cross-ties on their durability. The decay being organic, principally, the investigators concluded that the fermentative and germinating basis of this action would be prevented by sterilization of the wood, or, rather, of the juice harboring these organic agents. Impregnation by chemical antiseptics heretofore resorted to had been more or less unsatisfactory because of the impossibility of penetrating the whole log with the liquid. Any crack in the log would therefore reopen it and lay bare such parts as were not reached by the previous impregnation. The new experiments exposed the log to a stream of steam, and the fact was established that all sizes of the wooden blocks subjected to this treatment were equally well saturated and that the heat rapidly penetrated the wood.

These interesting experiments have advanced sufficiently to awaken strong hopes of the investigators in the direction of the discovery of a method of preservation of railway cross-ties much superior to that of impregnation by chemicals.

SCOTLAND.

COMMERCIAL RESULTS OF REFORESTING—RAILWAY SUPPLIES.

Consul Maxwell Blake, of Dunfermline, quotes the following from a Scotch publication on the afforestation of Scotland, with a statement regarding railway ties:

In the West Highlands a mixture of larch, spruce, and Scotch fir is best, the first named being the most valuable crop. Larch has been cut in Scotland at 60 years of age which yielded \$700 per acre. It is safer on a large scale to plant fir with the larch, as the fir will grow anywhere, which makes a crop more certain, although it is only worth 12 cents per cubic foot, against 25 cents for larch. Wherever the ground is suitable for spruce it should be planted, especially in wet soils. It is becoming a more valuable crop, and at 30 years of age is suitable for pulp and paper.

In the United States last year 103,000,000 railway ties were used, which denuded 600,000 acres of forest to supply. The British railways are supplied from Russia, 4,000,000 ties per year being needed. The Russian forests are now so much exhausted that the peasants have to sledge the trees for making these ties a distance of 20 miles to get them to the rivers.

STEAMSHIP LINES.

NORWAY.

EXCELLENT OPPORTUNITY FOR AN AMERICAN STEAMSHIP LINE.

Consul F. S. S. Johnson calls attention to the large traffic on the western coast of Norway, especially at the ports of Bergen and Stavanger. He writes:

The value of the exports from these two cities to the United States exceeded \$2,000,000 last year. An American line could easily have this trade; the steamers going to Christiania and Copenhagen could stop at the named ports on their trips to and from the United States. The export trade of both Bergen and Stavanger is much larger than that of Christiania. With the opening of the railroad to the capital from Bergen, the trade with the United States will more than double. An English firm is now considering the establishment of a line of steamers between the ports named and New York, with accommodation for steerage passengers.

ENGLAND.

NEW BRISTOL DOCKS AND INCREASED TRADE WITH THE UNITED STATES.

Consul J. Perry Worden furnishes the following information concerning American shipping at Bristol and the direct shipping trade between that port and the United States in connection with the Avonmouth docks:

The first American steamer scheduled for Bristol since 1891 sailed from Philadelphia recently with a cargo of oil, and the incident, otherwise unimportant, has aroused no little interest in this old port, which once maintained a brisk shipping trade with the United States. Not less than fifty American vessels discharged here in 1875, but soon thereafter American ships began to disappear from southwest England, and the last American ship in Bristol was a three-masted schooner from Maine, which dropped anchor here in August, 1901. Since then the American flag has never floated from a vessel in Bristol waters.

A coincidence with the sailing of the American steamship mentioned seemed to be the reestablishment of a special line of English freight steamers between Philadelphia and Bristol. One of them has made the first trip of any steamer from Philadelphia to Bristol in the last six or eight years. The owners of the line, however, who acted on the urgent advice of one of the leading shipping firms here, have been compelled to draw off a vessel, reducing the number to two, owing to the small amount of cargo ready to be sent from Philadelphia to Bristol.

THE AVONMOUTH DOCKS AND AMERICAN SHIPPING.

All Bristol now concentrates its attention and hope on the gigantic enterprise of the docks at Avonmouth, which have already cost the city \$12,137,747, and there is little doubt that the reason why American shipping with Bristol is so unimportant is not due, or at

least will not long remain due, to any fault of the merchants of Bristol. The docks, said to be among the finest in the world, and capable of accommodating any ship, are here, facilities for local and inland transportation are excellent, and the merchants are most favorably disposed toward American trade. Scarcely a day passes that, in conversation with shopkeepers or proprietors of large stores, I do not come upon some article of American manufacture brought here via London, Liverpool, or Southampton.

Bristol and vicinity furnish little return cargo for the United States, and the fact that Bristol shipowners have to scour the coasts for something to send back—sending at present considerable clay from Fowey—speaks favorably for their enterprise and desire to meet American shippers more than halfway. Without wishing to overstate the prospects, it does seem that with a little effort American shipping with Bristol could be greatly increased, and it is to be hoped that such an increase will occur in the near future.

ASIATIC TURKEY.

VALUE OF DIRECT STEAMSHIP COMMUNICATIONS IN EXPORT TRADE.

Consul Ernest L. Harris, writing from Smyrna, under date of January 28, has the following to say concerning the benefits that accrue to commerce through convenient ocean transportation:

It does not seem to be generally known among New York merchants, and others throughout the country, that since last September there has existed a direct steamship line between the port of Smyrna and New York. This is what a Smyrna business man, who imports a considerable quantity of American goods every year, said to me recently. If this is the case, then the fact that such a steamship line is now in existence should, in the interests of the export trade to Asia Minor, be made widely known.

Thus far only one steamer of the Moraitis Steamship Company has been making the trip, but next month two more steamers will be added, thus making three vessels of about 9,000 tons each which will cater regularly to the trade from New York to Asiatic Turkey. Since last September the one vessel which has been in service thus far has unloaded three cargoes of American merchandise at this port.

The following will give some idea, not only of the amount discharged at this port, but also of the nature of the merchandise which marks the beginning, more or less, of the export trade of the United States to this country: Twenty-three cases of rubber shoes, 1,391 cases of binding iron, 56,633 pounds of oleo oil, 3 cases of lamp chimneys and lamp fixtures, 20 barrels of cotton-seed oil, 500 sacks of flour, 2 cases of tools, 3 sewing machines, 1 case of leather, 1 churn, 100 barrels of mineral and lubricating oils, 12 cases of paper and paper signs, 6 crates of polish, 10 cases of pain killer, 2 cases of glassware, 2 motor launches, 20 cases of paraffin, and 21 cases of miscellaneous merchandise.

It is not a difficult matter to start a steamship line to any port, but to maintain it after it is established, in these days of keen competition, is quite another thing. Concerning the new line from this

port to New York, it may be now safely predicted that it will be a success. One vital point from the beginning was to secure a sufficient amount of freight for the return trip. As to the amount of cargo from here to New York, there is enough to support two direct lines. In addition to the American merchandise mentioned, the Moraitis steamer also brought back more than 1,000 return emigrants, chiefly Italians, Greeks, and Hungarians.

MEXICO.

THE REPUBLIC AIDS NEW STEAMSHIP LINE FROM GALVESTON.

According to a Mexico City paper the Mexican Government has granted a subvention of \$1,000 a round trip to a steamship line which will ply between Galveston, Tex., and points in the State of Tabasco. Two trips per month are to be made. The transportation company agrees to cultivate and develop the banana and other tropical fruit trade, it being stated that many Americans have also started fruit culture on the banks of Tabascan rivers.

PORTS AND WATERWAYS.

EAST AFRICA.

CLASSIFICATION OF PLACES OF ENTRY IN PROVINCE OF MOZAMBIQUE.

As there appears to be a lack of knowledge in the United States as to the location of, the limits to the jurisdiction of, and the ports of entry comprised within the consular district of Lourenço Marquez, Consul W. Stanley Hollis makes the following explanation:

The consular district of Lourenço Marquez (which ought to be called the district of Portuguese East Africa) comprises all of Portuguese East Africa, which is officially known as the Province of Mozambique, of which Lourenço Marquez is the capital.

The ports of entry in the Province of Mozambique are (beginning from the north) as follows:

Chief custom-house....Ibo.	Chief custom-house....Beira.
Subcustom-house.....Porto Amella.	Subcustom-house.....Bartholomeu
Do.....Palma.	Dias.
Despatch post.....Lurio.	Do.....Sofala.
Chief custom-house....Mozambique.	Do.....Bazaruto.
Subcustom-house.....Antonio Ennes. ^a	Chief custom-house...Inhambane.
Do.....Fernão Velloso.	Do.....Lourenço
Chief custom-house....Quellmane.	Marquez.
Despatch post.....Moma.	Despatch post.....Matolla.
Chief custom-house...Chinde.	

All invoices for goods shipped to the United States from any of these ports, and all landing certificates covering goods shipped from the United States to any of these ports, should be certified only at this consulate. As practically all goods shipped to and from the smaller ports are transshipped at other ports, either in Africa, Europe, or England, the present practice appears to be to have the

^a Antonio Ennes is often called "Parapat."

invoices certified at the port of transshipment, instead of at Lourenço Marquez, which is the consular port for all of these ports described.

The use of the words "Delagoa Bay," to denote the port of Lourenço Marquez, should be discouraged, as the practice of calling the chief port and the capital of the Province of Mozambique by a name that is not recognized by the government of the country in which it is located, is not only discourteous to that government, but confuses and perplexes merchants, shippers, and importers, and may lead to much trouble, expense, and inconvenience to all parties concerned.

PRUSSIA.

INCREASED TRAFFIC IN ALL SAVE SEA NAVIGATION ON THE RHINE.

Consul-General Richard Guenther, of Frankfort, furnishes the following statistics, contained in a memorial submitted to the Diet with reference to the improvements made in the Prussian inland waterways from April 1, 1895, to March 31, 1907:

The freight traffic on the various waterways was as follows:

Waterways.	1895.	1906.	Waterways.	1895.	1906.
	<i>Metric tons.</i>	<i>Metric tons.</i>		<i>Metric tons.</i>	<i>Metric tons.</i>
Rhine.....	9,828,368	24,753,075	Oder near Berlin.....	1,409,781	3,098,934
Dortmund Ems Canal.....		1,731,420	Warthe near Schwerin.....	175,085	315,154
Weeser at Minden.....	236,925	684,494	Welchael.....	505,700	991,122
Elbe at Hamburg.....	3,580,259	7,862,500	Memel near Tilsit.....		1,591,515
Waterways of the Mark, near Berlin.....		12,281,675	Moselle below Trarbach.....		23,080

An exception to the increase in traffic is shown by the Rhine and sea navigation. The transportation of goods by Rhine-sea steamers decreased from 282,470 metric tons in 1905 to 229,570 metric tons in 1906. There is no doubt but that this Rhine-sea traffic will vastly increase as soon as the Rhine-sea steamers can pass the Rhine-Heino canal and load and unload freight directly.

CHILE.

LOADING AND UNLOADING REGULATIONS—SHIPPING OF SEAMEN.

Consul Rea Hanna reports that as a result of a meeting of the foreign consuls held in the office of the maritime governor on October 26, 1907, the Chilean authorities of Iquique have issued the following port regulations, relative to the loading and unloading of vessels, and the shipping of seamen at that port:

When a vessel is taking in ballast, other than water, the time occupied by this work is not a working lay day under the terms of the charter party. If by consent of the consignees a vessel takes ballast, other than water, and discharges cargo at the same time, the day or days occupied in so doing are not to be considered working lay days under the charter party. The word ballast includes everything available for maintaining the stability of the vessel, other than water.

It is an established custom of the port to discharge and deliver coal in sacks. Coal destined for the hulks of the regular steamer lines is excepted. Captains must give a receipt to the consignees for the sacks sent aboard for the discharge

of coal, stating the number of sacks, or their weight, in such manner that proof can be shown that the same number as received are returned.

Before the sailing of a vessel, the maritime governor shall examine the crew list, the captain who clandestinely ships seamen to be heavily fined. The shipping of seamen shall be accomplished solely through the agency of the maritime governor's department, which will take the necessary steps to secure the end in view. When a seaman is shipped this department will give immediate notice to his respective consulate, in order that the proper annotation may be made in the crew list.

SUEZ CANAL.

WIRELESS TELEGRAPHY WEIGHT TO BE EXEMPTED IN VESSELS.

Ambassador Henry White sends from Paris the following translation of a letter from the president of the Suez Canal Company announcing certain modifications in the regulations concerning the navigation of the canal:

At its meeting of March 2, 1908, the administrative council of the Suez Canal Company decided in future to include the spaces intended to hold the apparatus of wireless telegraphy and the electric projector of the vessels among the spaces deducted from the gross tonnage as being useful for the maneuver of the vessel, and under reserve of the observation of the maximum total of 5 per cent of the gross tonnage. This modification of the navigation regulation, which is applicable at once, will be inserted in the next edition of the regulation.

GREAT LAKES.

IMPROVING CHANNELS BETWEEN LAKES SUPERIOR AND ERIE.

Consul Harry A. Conant, of Windsor, Ontario, referring to the improvement of the channels on the route between Lake Superior and Lake Erie, reports that a large part of the work done in 1907 consisted of excavations at the lower end of the Detroit River, of which about 80 per cent was in Canadian waters, within his consular district. In 1907 the work performed consisted of the removal of 2,000,000 cubic feet of material, of which about 15 per cent was either limestone bed rock or the overlying material, a large portion of which required explosives. The present channel will be nearly completed in 1908, and another channel, 13 miles in length, will be commenced. The commerce passing through the Detroit River in 1907 was roughly estimated at 67,000,000 tons.

STRAITS OF MAGELLAN.

LINE OF TUGBOATS CONTEMPLATED BY A DANISH COMPANY.

The Exporter's Review of New York states that a company in Denmark is contemplating the establishment of a line of tugboats to tow vessels through the Straits of Magellan. It is estimated that 3,000 sailing vessels under all flags pass around from the Atlantic to the Pacific yearly. It frequently takes weeks to round the Horn, while vessels could ordinarily be towed through the strait in thirty-six hours. It is proposed to start the new company with a capital of about \$800,000, and to station 10 powerful tugs at Punta Arenas in the strait.

MOTORING IN GERMANY.

STATISTICS OF NUMBER OF VEHICLES AND ACCIDENTS CAUSED.

Consul George Nicolas Ifft, of Annaberg, says that according to official statistics just published there were on January 1, 1908, in the German Empire 36,022 motor vehicles, of which 34,244 were passenger vehicles and 1,778 were freight vehicles. The consul presents other details as follows:

This is an increase of about 33 per cent during the year 1907. Of the passenger vehicles 19,573, or more than half, were motor bicycles. The increase was much larger, proportionally, in South Germany than in North Germany, being but 17.2 per cent in Prussia as against 84.8 per cent in Bavaria and 148.1 per cent in Hesse. In the city of Berlin the increase in the number of motor vehicles for the year was only 6, or 0.2 per cent. Of the passenger vehicles, 14,046 were used for business or professional purposes and 13,771 as pleasure and sporting vehicles. During the year 5,686 motor vehicles passed the frontier for temporary use for touring purposes in the Empire.

Statistics as to accidents due to motor vehicles are given for the year from October 1, 1906, to September 30, 1907, during which time there were 4,864 such accidents, in which 145 were killed and 2,419 injured. The figures for the dead do not include those who died after the accident as a result of their injuries, but only those killed on the spot.

DISTRIBUTION OF ACCIDENTS—IDENTIFICATION OF VEHICLE OWNERS.

The proportion of accidents to the number of machines differs widely. In the province of Brandenburg, in which is the city of Berlin, there are 5,275 motor vehicles, and during the year there were 2554 accidents involving such vehicles—about one accident for every second machine. In Berlin itself it came close to being one for every machine. In the Rhineland there was 1 accident to every 20 machines; in Prussia, as a whole, 1 to 18; and in Bavaria, Saxony, Württemberg, and Baden it varied from 1 accident to every 10 machines to 1 to every 18 machines. It must be noted that with the vehicles mentioned are reckoned the motor bicycles, which cause few accidents, but which constitute more than half the motor vehicles in Germany.

In 4,598 cases of accident (95.5 per cent of the total) the owner of the vehicle causing the accident was identified, and in 266 cases the owner remained unknown. Punishment by fine or imprisonment, or both, was imposed in 1,406 cases—in 1,092 cases through judgments by the courts and in 314 cases by summary fines imposed by police officers and collected on the spot.

FINANCIAL.

BANKS AND BANKING.

MEXICO.

PRESENT FINANCIAL SITUATION—PROPOSED CHANGES IN THE SYSTEM.

In transmitting the following information concerning banks and banking in Mexico, Consul W. D. Shaughnessy, of Aguascalientes, reports that, owing to the continued increase of general business and the falling off of foreign investments, due to the unsatisfactory monetary conditions in the United States and Europe, no striking developments have been made in the Republic during the past six months.

The banks of Mexico are reported to be in need of increased resources, in order to finance many proposed enterprises, and, without a doubt, any improvement in the money market will bring large capital into Mexican fields. The recent stringency, both in the United States and Europe, has not prevented the Mexican banks from paying their obligations in cash, but it has been the means of prohibiting the lending of money except upon sound security at the high rate of 12 per cent interest, an increase of $2\frac{1}{2}$ per cent since last July. Foreign exchange is very high, and little or no business is being done with the United States, all drafts issued being still made payable through the clearing houses.

Upon the invitation of the Minister of Finance delegates from the banks of the Republic assembled in April for the purpose of discussing ways and means to improve the banking methods of Mexico.

PROPOSED CHANGES.

The Minister of Finance strongly advocates the necessity of a bank having its numerary values and documents in such a condition that it may convert the sum represented into cash assets at a moment's notice to cover its liabilities on presentation. He also condemns the practice of the banks in allowing interest on open accounts, the reason being that time deposits are most desirable and protect them from unlooked-for surprises. The Department of Finance has made the following suggestions:

That efficacious means be found to fortify the cash reserves against any demands made against them for speculative purposes or fluctuations in the price of precious metals or for necessary balances; that forced and artificial circulation of their bills be avoided; that an agreement be reached by which the banks will not make advances outside their territorial jurisdiction without security; that a limit be placed on the obligations which different persons may contract at each bank; that the attorneys of the banks do not enjoy greater privileges than any other private individuals; that greater vigilance be exer-

cised over the management of the banks and that more accountants and experts be engaged and special commissions instituted, and that they determine upon a better form to advise stockholders and the public of the true conditions of the banks.

STANDING OF THE BANKS.

The recent report of the Minister of Finance gives the following figures as to the standing of the banks from the annual balance sheets on June 30, 1907, as compared with the corresponding date in 1906, in Mexican dollars (\$1 Mexican=49.8 cents American):

	June 30, 1906.		June 30, 1907.		Increase (+) and de- crease (-).
ASSETS.					
Unpaid capital.....	\$	83	\$	32	+33,686,949
Cash on hand.....	7	14	6	61	- 3,663,658
Notes of other banks.....		89		39	+ 487,460
Notes discounted.....	17	74	20	24	+24,866,960
Loans on collateral.....	9	09	11	40	+23,001,981
Loans on mortgage.....	1	86	2	85	+ 4,306,329
Loans secured by subsidiary mortgage guarantee.....		74		43	- 1,071,731
Loans of encouragement.....		01		79	+ 106,969
Public Funds and other immediately realizable securities...	2	12	2	63	+ 4,003,961
Unliquidated accounts.....				82	+ 876,662
Real estate.....		5,114,988		45	+ 1,290,507
Accounts current, debtors.....		223,761,986		29	+26,318,636
Total assets.....		628,981,836		723,763,585	94,881,750
LIABILITIES.					
Subscribed capital.....	14	00		9	+16,000,000
Notes in circulation.....	9	07		9	+ 1,835,561
Mortgage bonds in circulation.....	1	00		9	+ 3,228,900
Cash bonds in circulation.....		00		9	- 1,006,460
Call deposits and check accounts.....	3	38		5	+ 1,565,078
Other deposits.....	2	97		7	+ 6,772,329
Accounts current, creditors.....	25	71		7	+65,500,696
Reserve funds.....	4	80		8	+ 4,279,838
Emergency funds.....		72		5	- 1,784,687
Total liabilities.....		628,981,836		723,763,585	94,881,750

The distribution of the reserve funds held by the banks on the two mentioned dates was as follows:

Banks.	June 30, 1906.	June 30, 1907.	Increase.
National Bank of Mexico.....	\$25,922,113.40	\$26,746,287.27	\$754,173.87
Bank of London and Mexico.....	13,600,000.00	14,250,000.00	750,000.00
Other banks.....	14,070,188.76	15,001,070.00	930,881.24

The total cash holdings of the banks in October, 1907, was \$68,565,407, and the note circulation for the same date was \$94,577,098. Adding call deposits, check accounts, and note circulation there was a total of \$134,739,443, against holdings amounting to \$75,247,200 and \$27,023,563 in public funds and other securities susceptible of immediate realization June 30, 1907.

NEW COINAGE—OLD COINAGE WITHDRAWN.

The quantity of new currency coined from May, 1905, to November, 1907, was as follows: Ten-dollar gold pieces, \$44,446,120; 5-dollar gold pieces, \$28,720,380; total gold, \$73,166,500; 50-cent silver pieces, \$26,186,519; 20 and 10 cent silver pieces, \$5,499,924; total

silver, \$31,686,543; 5, 2, and 1 cent bronze pieces, \$1,738,147; total coinage, \$106,591,190.

The following old silver and copper coins have been withdrawn from circulation, the silver coins for remintage and the copper coins to be melted and sold:

Fiscal year.	Silver pesos.	Subsidiary silver coins.	Copper.
1905-6.....	\$800,000	\$4,584,594	\$57,578
1906-7.....	5,718,380	8,212,847	84,071
July 1 to November 25, 1907.....		1,064,002	87,984
Total.....	6,518,380	8,860,943	179,633

THE BANKING LAW—CLASSES OF BANKS.

Charters or concessions are granted in Mexico for the establishment of three distinct kinds of banks, viz, banks of issue, mortgage banks, and loan banks (bancos refaccionarios).

Banks of issue are those which are permitted to issue notes of the various denominations which are redeemable at par and at sight to bearer. The minimum capital must be \$500,000, and at least 50 per cent of the total capital subscribed must be held in cash before operations are commenced. Bank notes do not constitute legal tender and can not be issued for lesser denominations than \$5. Cash in hand in the bank must at no time represent less than one-half of the amount of its circulation plus its sight deposits and deposits at three days' sight. Circulation is limited to three times the amount of paid-up capital.

Banks of issue are prohibited from discounting paper of any running nature, negotiating in paper running over six months, or accepting notes or other documents for discount which do not bear two responsible signatures or are not guaranteed by mortgage security. They can not secure loans, or contract any compromise on notes of their own circulation, and are forbidden to mortgage their properties or surrender their discounts for collateral security to any third party. They can not accept mortgages on properties, except under special circumstances and with the approval of the Department of Finance, as follows: When a client's credit decreases and it becomes necessary to protect the note discounted, authorization is granted by the Department only on condition that the total amount of the mortgage in favor of the bank does not exceed one-fourth part of the paid-up capital, and only when this security is given to protect a credit which will mature within two years from the date of transaction.

Mortgage banks are those which make loans on rural and urban properties and issue bonds which accrue interest and are amortizable through special conditions and at specified date, being protected by the mortgage proper. The minimum capital must be \$500,000, and 50 per cent of the total subscribed stock in cash.

Banks of loan are those banks which are authorized or expressly organized with the object of facilitating mining, agricultural, and industrial enterprises by means of privileged loans, without mortgage security. These banks issue short time credit bonds which accrue interest and are payable at specified times or dates. The minimum capital stock is \$200,000.

CONCESSIONS AND CHARTERS.

Special concessions are granted for the working of each of the banks named, and in no case can one concession cover the working of

any two, neither can any one class of bank transact business pertaining to or covered by the concession of another of a different order.

Concessions are granted by Congress and decreed by the Executive of the nation, and in no case can they exceed thirty years' duration for banks of issue, and fifty years for loan banks and mortgage banks. A concession can not be secured by less than three persons, who are required to prove, within four months after it has been granted, the constitution of the stock company which proposes working it, as well as the transfer of the concession to the company.

The stock company comprises at least seven individuals, the stock being considered as registered bonds until its total value has been paid in. Concessions are granted only when the concessionaires have previously deposited bonds of the National public debt with a nominal value, at par, of at least 20 per cent of the amount of cash which the bank is required to have in its vaults for the commencement of operations. This deposit is returned as soon as business commences.

Charters for the establishment of institutions of credit are granted to private individuals or corporations, but the exploitation of such charters or concessions can only be carried on through the medium of corporations or stock companies legally organized in the Republic.

The domicile of the institution is considered at the place where the head office is located, and the capital stock can not be increased without the approval of the Minister of Finance.

Exemptions and reductions in taxation are only granted to the first bank established in each State or Federal territory. All other banks are required to pay all taxes established by law, as well as a special Federal tax of 2 per cent per annum on the total paid-up capital of the institution.

State banks can not organize or open branches out of their territory, to cancel or manipulate their circulation, except when special authorization has been granted by the Executive of the nation. This special authorization is never granted except when sufficient proof is shown that unusual commercial relations exist between various States. On no account can branches be established in the City of Mexico or the Federal district.

BANKS SUBJECT TO GOVERNMENT CONTROL.

All banks are subject to Government intervention, the interventor or inspector being named by the Federal Executive. A monthly cash balance is published, in which is shown, apart from the balances of those accounts required by law, the total cash on hand, total notes in circulation, and the amount of sight or three days' sight deposits.

Should the bank's circulation at any time exceed the amount required by law, the same must be communicated immediately in writing to the Government inspector, and the bank is required to suspend all further operations of loans until its note circulation is again found within the limit fixed by law. If this end is not reached within fifteen days, the Department of Finance will fix a convenient time, which in no case can exceed one month, so that the bank's circulation may be adjusted. Failure to comply with this is penalized by forfeiture of its concession and the liquidation of the bank's affairs.

All banks are under obligation to redeem all notes placed in circulation by them. A branch is only required to redeem those notes placed in circulation bearing a countermark showing that they have been issued from that branch. Denomination of bank notes is con-

financed to those of 5, 10, 20, 50, 100, 500, and 1,000 pesos, which are stamped by the Government upon authorization of the Department of Finance. This authorization is only given when proof is shown that the notes represent an amount according to the bank's concession.

All notes which are presented by the public, even though they are torn or impaired, are redeemable if they legibly show the number, series denomination, and corresponding signatures. Those withdrawn from circulation are destroyed by fire, according to law.

Foreign institutions of credit which make a practice of issuing credit paper can not establish branches or agencies in the Republic of Mexico to handle or negotiate their paper.

It is not doubted but that Mexico's chartered banks rank, as to solidity, among the foremost in the world, but the recent suspension by the banks of Yucatan and the stringency of the world's money market has made it necessary for the banking circles of Mexico to prepare against dangers arising from mismanagement and possible misappropriation of funds.

GERMANY.

THE DRESDNER BANK REPORT—REVIEW OF BUSINESS CONDITIONS.

Consul H. W. Harris, of Nuremberg, furnishes the following synopsis of the report of the Dresdner Bank for 1907, reviewing the business conditions which prevailed in Germany and other countries during that year:

The Dresdner Bank has branches in many of the principal business centers of Germany, and in recent years has extended its business into several foreign countries. The banking enterprises of the Dresdner in the Orient, in South America, and in Canada are stated in the report not to have been altogether successful during the past year. This was especially true of the bank's interest in a Canadian bank, in which it was associated with other banking concerns, while a branch in Mexico is stated to have been successful. The establishment of this latter branch is said to have been in accord with a long-existing desire to get a footing in Mexico, as a country having a promising future.

German imports in 1907, estimated on the basis of prices for 1906, exceeded exports by 1,728,000,000 marks (\$411,264,000), as against an excess of imports over exports in 1906 of 1,663,000,000 marks (\$395,794,000). Imports in tons in 1907 were 66,000,000, as against 58,000,000 tons in 1906, while exports in 1907 were 45,000,000 tons, as against 44,000,000 in 1906, the excess of imports over exports in 1907 being 21,000,000, as against an excess of 14,200,000 tons in 1906.

Increased domestic consumption of manufactures and other merchandise is referred to, but the reminder noted that with large bills to pay for raw materials, cotton, wool, ores, metals, cereals, food products, etc., Germany must fall into no condition of self-satisfaction because her factories are busy taking care of an increasing home consumption. The report says among other things:

So long as Germany has no other alternative than to import large quantities of raw materials from foreign countries, and so long as she is not in position to balance her account for merchandise bought and sold abroad with profit

received from foreign securities held and other investments in foreign undertakings, so long must she strive with all her powers to increase her exports and make it her duty to practice fair economy in home consumption. The next few years will show whether under the sway of the present commercial treaties it will be possible for trade associations and syndicates to secure the necessary market for exports. Further, Germany must earnestly endeavor in the interest of her trade balance to increase her ownership in good foreign securities as soon as a relaxation of domestic credit demands and consequent lowering of interest rates render it possible to compete with England and France in this respect, which unfortunately has for a long time not been the case.

TAXATION IN YUKON.

SYSTEM OF TAXATION IN THE TERRITORY—REVENUE AND EXPENDITURES.

Consul George C. Cole, of Dawson, furnishes the following statistics covering taxation and the revenues and expenditures of the Yukon Territory of Canada:

The revenues of the government of the Yukon are raised by property, income, and inheritance taxes, and from licenses. Both personal and real property are appraised at their fair cash valuation by an assessor, and the levy is made on this assessment by territorial authority. All incomes over \$1,800 are assessed the same as personal or real property.

Liquor licenses pay as follows: wholesale, and saloon in Dawson, \$1,000; hotel in Dawson, \$700; hotel in Klondike city, White Horse, and South Dawson, \$500; hotel elsewhere, and brewery, \$250. All the licenses are given herewith, grouped under six classes, ranging from \$1,200 down to \$10: (1) Banks in Dawson, in lieu of other assessments, \$1,200; (2) banks elsewhere, \$250; (3) general merchants, sawmills, railroads (per mile in lieu of other assessments), \$100; (4) auctioneers, bottling establishments, dry goods, hardware, etc., merchants, patent-medicine vendors, \$50; (5) brokers, secondhand dealers, retail butchers, druggists, pedlers, jewelers, steam laundries, livery stables, manufacturers of any kind, pawnbrokers, professions, rooming houses, wood dealers, and wood-sawing machines, \$25; bakers, barbers, 1 chair (additional chairs, \$5 each), billiard table (each additional table, \$5), blacksmiths, bowling alleys, cigar stands or stores, freight teams (horses or mules), insurance agents, ice-cream stands, hand laundry, fruit and cigar merchants, photographers, printing offices, scavenger wagons, transfer or express, water wagon, \$10. Restaurants pay a license of \$15.

All furniture in use, tools of trade to the value of \$200, and property of eleemosynary institutions are exempted from taxation. The levy rate in 1907 was 20 mills per \$100.

The appropriations for 1908 amount to \$379,986. The principal purposes for which this is to be applied are as follows: Roads, bridges, and public works, \$143,785; schools, \$56,575; Dawson fire department, \$50,126; hospitals, charity and quarantine, \$34,000; salaries and traveling expenses, \$27,900; Dawson streets and street lighting, \$12,500; all other purposes, \$55,094. When the revenues provided for are not sufficient to defray the expenses of the Territory the deficiency is supplied by the Dominion government.

MOBILITY OF PRICES.

GERMAN STATISTICS SHOWING FLUCTUATIONS IN COMMODITIES.

Consul William C. Teichmann, of Eibenstock, reports that the foreign exchange department of the Deutsche Bank, the largest financial institution in Germany next to the Reichsbank, has computed the following interesting figures on market prices during the last three years, with the object of showing their fluctuations by quoting the highest and lowest prices of each year:

	1907.	1906.	1905.
Cotton (Bremen Cotton Exchange upland middling quotation, per $\frac{1}{2}$ kilo=1.10231 pounds):			
Highest.....	\$0.1642	\$0.1547	\$0.16
Lowest.....	.1291	.12	.0839
Lead (London closing quotation for "English lead," per English ton):			
Highest.....	110.71	98.55	88.21
Lowest.....	83.84	76.65	59.61
Coffee (Hamburg quotation, 6 p. m., for good Santos, per $\frac{1}{2}$ kilo):			
Highest.....	.09	.0909	.0908
Lowest.....	.0842	.0815	.0815
Copper (London closing quotation for Chile copper, per English ton):			
Highest.....	537.75	498.82	392.97
Lowest.....	271.31	374.72	311.46
Corn (New York quotation, per bushel):			
Highest.....	.7637	.6087	.6325
Lowest.....	.5125	.485	.50
Petroleum (New York quotation, standard white, per gallon):			
Highest.....	.0875	.078	.077
Lowest.....	.075	.075	.069
Rye (Berlin quotation, 2.30 p. m., per metric ton of 2,204.6 pounds):			
Highest.....	51.71	42.38	41.77
Lowest.....	39.51	35.76	33.97
Saltpeter (Hamburg term quotation for Chile saltpeter, per 50 kilos):			
Highest.....	2.68	2.75	2.60
Lowest.....	2.37	2.27	2.14
Lard (Chicago quotation for steam lard, per 100 American pounds):			
Highest.....	10.175	9.85	8.10
Lowest.....	7.225	7.325	6.55
Silver (London closing quotation, per ounce, troy):			
Highest.....	.66168	.66027	.61464
Lowest.....	.58734	.59	.5151
Wheat:			
New York quotation for red winter wheat (per bushel)—			
Highest.....	1.15	.96	1.25
Lowest.....	.80	.77125	.8475
Berlin quotation 2.30 p. m. (per metric ton)—			
Highest.....	56.01	45.93	44.09
Lowest.....	43.33	40.94	39.92
Wool (Antwerp quotation for La Plata combed, type B, per kilo):			
Highest.....	1.20	1.20	1.01
Lowest.....	1.07	.98	.95
Zinc (London closing quotation for spelter, per English ton):			
Highest.....	136.87	142.95	141.73
Lowest.....	99.16	117.40	113.45
Tin (London closing quotation for "Straits," per English ton):			
Highest.....	973.30	1,041.43	805.41
Lowest.....	655.80	783.51	653.64
Sugar (Magdeburg quotation, 11.30 a. m., for unrefined sugar, including sack transit f. o. b. Hamburg):			
Highest.....	4.89	3.96	7.69
Lowest.....	4.13	3.71	3.82

To these statistics the consul adds the following commentary:

Among these commodities some of the metals developed the greatest fluctuations during 1907. Copper, for instance, which in March reached its highest figure during the three years quoted, receded one-

half from its high-water mark to a figure considerably below the bottom points of 1906 and 1905, although rallying some toward the close of the last year. Zinc and tin encountered marked drops. Silver showed a falling tendency during the year and from October on receded below the lowest 1906 quotations. Cotton in general developed a rising tendency during the year until the end of September when the steady fall of prices set in which prevailed for the remainder of the year. Wheat, however, reached in the New York market higher figures for 1907 than in 1906, but not the highest quotation of 1905.

Lead, which increased its price considerably in 1906 as compared with 1905, continued its rising tendency during 1907. The highest 1907 prices for corn, rye, petroleum, lard, and wool all exceeded those of 1906 and 1905. The highest 1907 Hamburg coffee quotations were below the lowest 1906 and 1905 figures. The lowest 1907 German sugar quotation was above the highest 1906 figure, but the highest 1907 price did not reach that of 1905, although the 1905 bottom point fell below that of 1907, owing to the widely diverging sugar market of 1905.

CANADIAN DEBTS AND ASSESSMENTS.

PERCENTAGE FIGURES OF SIXTEEN OF THE LARGEST CITIES.

Consul Abraham E. Smith states that in view of the difficulties the city of Victoria, in British Columbia, is laboring under to secure sufficient water for domestic and other purposes during the annual summer droughts, a determined effort is being made to secure a better water supply, and adds the following particulars:

To do this large expenditures will have to be made, either to purchase the rights of a private company owning large adjacent lakes, or to build canals and tunnels to bring water direct from the Sooke Mountains to the city. A movement is on foot to raise the assessed valuation of property in the city to meet the increased expenditure, as the municipal debt is now so large that it can not be legally increased. An investigation shows that Victoria has the largest debt per population of any city in the Dominion of Canada, except Quebec. Of the sixteen largest cities in Canada the following are the figures of the percentages of net debt per head and net debt to assessment:

Cities.	Net debt per capita.	Net debt to assess- ment.	Cities.	Net debt per capita.	Net debt to assess- ment.
		<i>Per cent.</i>			<i>Per cent.</i>
Ottawa.....	\$30.06	5.76	Vancouver.....	\$42.15	7.48
Kingston.....	32.10	7.52	Hamilton.....	42.35	8.37
Sherbrooke.....	34.74	9.17	Belleville.....	50.02	11.97
Chatham.....	35.77	7.90	Halifax.....	54.43	8.96
Sydney, Cape Breton.....	36.54	9.13	St. Catharines.....	61.50	12.79
Winnipeg.....	30.83	9.13	Montreal.....	64.43	11.84
Toronto.....	41.13	6.89	Quebec.....	94.36	23.83
St. John, New Brunswick.....	41.64	8.12	Victoria.....	66.31	11.56

It thus appears that the percentage of debt to assessment in Victoria is 11.56, while in Ottawa, which has the lowest rate in the Dominion, the percentage of net debt to assessment is only 5.76. In Vancouver the percentage is 7.48, where the net debt per head is \$42.15, while in Victoria it is \$66.31.

POSTAL CHECKS IN GERMANY.

INTRODUCTION OF A SYSTEM FOR THE PAYMENT OF ACCOUNTS.

Consul William Bardel, of Bamberg, reports that since the passage of the law by the Reichstag, in the latter part of February, 1908 [a copy of which is on file in the Bureau of Manufactures], to promote the payments of accounts by bank checks throughout Germany, the Bundesrath (Federal Council), in order to meet the requirements of the middle classes and small business people, resolved to introduce the following system of paying accounts by postal checks:

Any individual, firm, public authority, or organization can participate in this postal-check system. Application for participation can be made at a postal-check bureau or at a regular post-office. The applicant has to make an original deposit of not less than 100 marks (\$23.80), which has to remain the minimum balance of his account. There is to be no limit as to the maximum extent of a deposit.

The depositor can dispose, at any time, of the balance due him over the fixed deposit of 100 marks, by drawing checks or by a request for transfer of certain sums from his account to other postal-check accounts. The postal-check bureau is required to notify each depositor of payments received or made for him. A depositor has the right to withdraw his account entirely at any time. In case of unseemly use of the account the postal-check bureau has the privilege of canceling the account. The Government is not to derive any financial benefit from this postal-check system, as only the cost of it is to be covered by small dues.

COSTS OF SERVICE—DEPOSITS GUARANTEED BY GOVERNMENT.

The dues to be collected for the service are to be as follows:

(1) For every cash deposit of 500 marks (\$119), or any part thereof, 5 pfennigs (1.19 cents); (2) for withdrawals in cash one-eighth "pro mille" of the amount withdrawn and a fixed tax of 5 pfennigs; (3) for any transfer from one postal-check account over to another, the amount of 3 pfennigs (.714 cent).

If the account of a depositor exceeds 600 book entries per annum there will be charged, besides the dues mentioned, an extra due of 7 pfennigs (1.67 cents) for every entry to be made beyond 600. The collection of dues and of the charges for check forms is made by deductions on the respective accounts. The notifications of the check bureaus and of the post-offices to the depositors, as also between the check bureaus and the post-offices, are to be considered official business, and therefore free of postage.

For a start, postal bureaus are to be established in Breslau, Berlin, Cologne, Danzig, Frankfort, Hamburg, Hanover, Karlsruhe, and Leipzig.

In order not to have it appear that this postal-check system is to encroach on the business of savings banks and credit associations, the deposits will bear no interest.

The Reichsbank (Imperial Bank) assumes the administration of the money for account, and at the risk of the Government. Considering that the balances of these accounts have to be held ready for withdrawal at any and all times, a large part of the money safeguarded by the Reichsbank will have to be invested in values which

can easily be converted; particularly in gilt-edged inland or foreign notes, payable in gold. In order that the sources from which these deposits will principally come will be benefited the most, a part of the fund is to be given by the Reichsbank, against sufficient security and interest, to institutions for advancement of industry, commerce, and agriculture.

This decree so far only covers the imperial postal territory, to which Bavaria and Wurttemberg do not belong as yet; but it is expected that by January 1, 1909, when this system is to be introduced, the two named countries will introduce the same system and on the same basis as this. After a few years of practical experience the Reichstag will be enabled to form this decree into a law.

BANK DRAFTS IN GERMANY.

LARGE INCREASE IN THEIR CIRCULATION IN RECENT YEARS.

The following statistics, based on an article in a local periodical, covering the circulation of bank drafts in Germany, is furnished by Consul E. Theophilus Liefeld, of Freiburg:

The circulation of bank drafts in Germany during the year 1907 was greater than ever before, and the percentage of increase was as great as in the years 1900 and 1906. Judged according to the amount of tax collected on these drafts, it is claimed that for the year 1907 their face value represented 30,760,000,000 marks (\$7,320,880,000).

As the time limit of these drafts is, on an average, ninety days, or a quarter of a year, it is evident that the average circulation in Germany for the year 1907 would be one-fourth of the above, viz, 7,691,000,000 marks (\$1,830,458,000), against 7,015,000,000 marks (\$1,666,957,000) in the preceding year. The average amounts in circulation during the last ten years, reduced to United States currency, were:

Year.	Amount.	Year.	Amount.
1888.....	\$1,152,634,000	1903.....	\$1,824,946,000
1899.....	1,245,602,000	1904.....	1,830,400,000
1900.....	1,886,588,000	1905.....	1,517,728,000
1901.....	1,866,858,000	1906.....	1,669,570,000
1902.....	1,279,488,000	1907.....	1,830,458,000

As the general business depression made a great decrease for the years 1901 and 1902, it was not until the year 1905 that the amount for 1900 was surpassed; nevertheless, the yearly increase since 1902 has been very great. A study of the face value of bank drafts and the population of Germany shows that in the last twenty years the amount has approximately been doubled, as will be seen by the following statement showing the circulation per capita: In 1888, \$14.99; 1899, \$22.61; 1901, \$24.75; 1905, \$25.23; 1906, \$27.37; 1907, \$29.51.

CEMENT.

MANUFACTURE AND USE.

GERMANY.

IRON ORE PREPARATION OF ESPECIAL VALUE IN SEA WATER.

Consul-General A. W. Thackara, in response to American inquiries, makes the following report from Berlin on the manufacture of sea-water proof cement in Germany:

While a number of cements are made in Germany, known as "Eisencement," "Kraftcement," "Erzcement," "Schlackencement," etc., which are recommended by the various companies as suitable for hydraulic purposes, in all probability the "sea-water proof" cement or ore cement (Erzcement) mentioned by the inquiry, is that manufactured at Hemmoor, a small village on the Oste River about 26 miles from Cuxhaven and about 50 miles from Hamburg. The product called Erzcement "Aegir" is produced under the German patent No. 143604, which was taken out in July, 1903, the Hemmoor company being the licensees. It is claimed that the Erzcement is a product which can be used with economy and efficiency for works constructed in sea water, in tunnels, etc., where ordinary Portland cement will deteriorate. The raw materials used in the manufacture of the product are:

(1) pure chalk, that is, chalk containing 99½ to 100 per cent of pure carbonate of lime; (2) roasted flint stone, very finely ground; and (3) finely ground ferric oxide.

METHODS OF PRODUCTION—COMPARATIVE TESTS.

The ferric oxide is obtained partly from so-called "bog-iron" ore and other pure iron ores, and partly from pure "gravel waste." After the flint stone and ferric oxide in the dry state have been ground very finely, all the three materials are worked together in a moist paste, which is of so fine a consistency that it leaves a residue of only 5 per cent maximum on a sieve of 5,000 meshes per square centimeter, or 32,400 meshes per square inch. After having been dried the paste is burned to a clinker in a rotary kiln and then ground. During the grinding a small portion of raw gypsum is added, the resulting product being the Erzcement. The director of the Hemmoor works informs me that in the laboratory extensive experiments have been made with the cement during the past three years. Three different "Erzcements" have been tested, of which one was an average sample, composed of cement taken from five batches made at different times, and two were samples, each taken from two large lots. These three Erzcement samples were compared with 12 different German Portland cements of the highest reputation, bought in the open market, with a slag cement, with a white Portland cement containing a high percentage of chalk and alumina, and with a first-class foreign Portland cement.

All test pieces were tested in fresh water, in ordinary sea water, and in water containing from three to five times more salt than sea water. Furthermore, test pieces were made, containing 2 per cent, 5 per cent, and so on up to 40 per cent of ground, unburned gypsum. While it was known that Portland cements with these high percentages of gypsum would certainly be destroyed, the test pieces were made as stated in order to ascertain whether or not such high contents of gypsum would also act deleteriously on the Erzcement test pieces. If the latter remained intact it might be taken for granted that works constructed with the Erzcement would resist the action of water containing a great percentage of sulphate.

STRENGTH INCREASES.

The three Erzcements have stood the tests well. The strength of the test pieces made from neat cement and those made from mortar, 1 part cement, 3 parts sand, has increased steadily from year to year during the three years the experiments have been carried on, not only in the air, but also in fresh water, in ordinary sea water, and in water containing three and five times more salt than the water from the sea. The test pieces to which were added up to 40 per cent of gypsum, have also remained quite intact up to the present time; they are still of excellent hardness, they sound clear when struck by a hammer, and there is no sign of cracking.

The test pieces made from the various Portland cements have for two years maintained the usual strength which might be expected of a good Portland cement. The test pieces also which were immersed in ordinary sea water have for two years stood well and still show excellent strength, although in each case less than that shown by the test pieces kept in fresh water. Their condition, however, is surpassed by that displayed by the Erzcement test pieces. In water, however, containing three times more salt than ordinary sea water, the strength shown by the Portland cement is decreasing heavily, while that of the Erzcement is increasing. The difference is still greater in the test pieces immersed in water five times more salt than sea water.

TESTS WITH GYPSUM—PRICE QUOTATIONS.

Those cements to which a great percentage of gypsum was added, as far as the Portland cements are concerned, are without exception completely destroyed, while the Erzcement pieces are still intact and show great strength thirty-six months after the immersion in sea water. One of the Erzcement pieces with gypsum has now been observed for forty-two months and yet does not show any sign of deterioration. The average strength of the Portland cement test pieces without gypsum has, during the second year of their immersion in water five times more salt than sea water, decreased 10.8 per cent, whilst the Erzcement pieces have increased in strength on an average 4.03 per cent.

From these experiments, which will be continued in the laboratories of the Hemmoor company, the director states that it might certainly be concluded that works built with Erzcement in sea water, as well as in coal mines, potash mines, railroad tunnels, and similar constructions, where they are exposed to water containing a great percentage of sulphate, will prove much more durable and more eco-

nomical than works constructed with the ordinary Portland cement, although the first costs of building would be greater, because the price of Erzcement is higher than the best grades of Portland cement.

The price of Erzcement manufactured by the Hemmoor company is 7.5 marks (\$1.78½) per barrel of 180 kilos (397 pounds) gross, 170 kilos (375 pounds) net, free alongside ship at Hamburg, net cash. In quantities of 1,000 barrels the price is 7.25 marks (\$1.72½) per barrel.

HARBOR WORK EXPERIENCE.

I send as an annex to this report copies of a technical treatise on the chemical qualities of various cements, issued by the Hemmoor company, which contains the results of experiments made with various kinds of cements. I also send a copy of the German patent covering the Erzcement "Aegir." [These will be loaned to inquirers by the Bureau of Manufactures.]

From inquiries made of disinterested parties, I learn that the Portland cement produced by the Hemmoor company is one of the best German Portland cements existing, and that the sea water proof cement manufactured by the same company is also a first-class product.

The chief engineer of the vast harbor improvements works which are being carried on at Norden writes me that since 1904 experiments have been made with Erzcement which was obtained from the Bühren Portland cement works in Westphalia. The Erzcement Beton blocks were compared with those made from Portland cement purchased from the mills at Brackwede and Misburg. In 1905 the Portland cement blocks showed visible cracks, while in 1907 they commenced to decay. The blocks made from Erzcement, however, up to the present time have lasted so well that last year it was decided to use Erzcement in all repair and new works in the district. Since the commencement of 1907, the Erzcement has been obtained from the Hemmoor factory and has given great satisfaction.

IRON ORE VERSUS THE PORTLAND.

An American engineer for the cement industry has translated a pamphlet published by a German cement company covering a series of tests of the resisting and enduring qualities of iron-ore cement and Portland cement, from which the following conclusion was reached by the company:

Through our experiments we arrive at the conclusion that the resistance of the Portland cement which we used for comparative tests depended upon two points, namely, the method of manufacture and the percentage of alumina. Those made under the wet process invariably showed greater constancy of value than those made under the dry process, supposing that the contents of alumina did not vary too much. The amount of alumina, without doubt, is the more decisive factor of the two. All experiments were convincing evidence of the fact that a cement disintegrates the sooner or suffers so much more serious damages within a given time the higher its contents of alumina. Portland cements, being low in alumina, show greater resistance in the presence of gypsum or in sea water than those of a high percentage of alumina, but, in the long run, even the former go to destruction. Iron-ore cement, as previously stated, passed the severest tests without the slightest damage—its contents of alumina never exceeding 1.5 per cent.

All the foregoing statements warrant the declaration that well-burned iron-ore cement is positively superior to Portland cement, if the cement is to be used

for marine construction, for sea-water canals, and for all cases in which the concrete comes in contact with sulphuric acid salt solutions. [The translation in full of the experiments by which the foregoing conclusion was reached is on file in the Bureau of Manufactures.]

BRAZIL.

A LARGE QUANTITY USED, BUT NONE FROM THE UNITED STATES.

Deputy Consul-General J. J. Slechta, writing from Rio de Janeiro on the use of cement in Brazil, says:

The demand for cement in Brazil is constantly increasing. Importations in 1906 were nearly 100 per cent greater than in the preceding year, amounting to about \$2,180,000 for 750,000 barrels, the average for ten years being 250,000 barrels. Of this amount Germany sent \$954,000, Belgium \$566,000, Great Britain \$344,000, and France \$302,000. This is a very important trade, in which the United States does not figure at all, and, as has been previously pointed out in reports from this consulate-general, the extreme conservatism of contractors in changing brands of cement they may consider satisfactory is, and will continue to be, a serious obstacle in the introduction of American brands. Changes are made, however, and a notable example is that of a recent occurrence when a large importer of British products gave up the agency of a leading brand of English cement for one of the Belgian makes. The price for the best grades averages about \$3.60 per barrel in large quantities.

The increased demand for cement is really due almost entirely to the great quantities used in hydraulic work. Consideration of the Brazilian style of architecture will convince one that the use of cement in building operations is not likely to prove popular for some time to come. Brazilians prefer showy building stone when they use stone at all, and the greater part of the structures are of brick or cheap building stone, upon the surface of which stucco and lime work is used to effect various imitations of stone architecture. Common pressed brick is for this purpose much preferred by local contractors, it being the general opinion that concrete brick do not furnish as good surface as clay. There are at present three establishments in Rio de Janeiro manufacturing cement brick, and while the product is of the best and certainly of a higher architectural value than common pressed brick, the latter sell at a price from 10 to 20 per cent less than the concrete product, and still the demand remains insignificant. Nor is it probable that concrete building stone will replace the native granite. This stone is very expensive, it is true, when worked up into the fancy style preferred here, but in foundation and similar work where concrete is at all acceptable, the price of granite excludes the possibility of competition, it being furnished at about \$2.80 per cubic meter.

LARGE DEMAND FOR CEMENT.

The construction of hydraulic power plants, harbor improvement works, bridges, improvement of sewerage systems, and other similar enterprises have caused the great increase in the demand for cement. In addition to the work already under way there are plans projected for the construction of other power plants in various Brazilian cities. The extension of the railway system in southern Brazil will necessi-

tate several large bridges, and for these and other enterprises contemplated a large amount of cement will be needed. As a suggestion to American enterprise, it might be well to note that there is no reason why Brazil should not furnish her own cement. The head of the Brazilian geological service is authority for the statement that western Minas Geraes furnishes an extensive deposit of a very uniform quality of limestone suitable for cement compositions. Some time ago a small plant was established near the city of São Paulo, but the limestone used was of a very irregular formation and the cement turned out was not satisfactory. Within the past few months a German chemist was employed, and the resulting improvements in properly grading the stone used brought success to a more or less satisfactory extent. At present the entire output of the plant is used by the government of the State of São Paulo, the price being the same as for the best imported cement.

The limestone deposits above mentioned are easily accessible to railways and probably good rates could be secured. The Brazilian Government is very liberal in its policy toward the initiation of such enterprises, and the indications are that a careful investigation of the situation would be favorable to the establishment of one or more cement factories in Brazil. The land rates for transporting cement from western Minas would probably be as high as the trans-Atlantic rates, so that the manufacturer would have an advantage of substantially the amount of the present duty, about \$1.20 per barrel, in competing with importers.

Concrete sewer pipes are being used in Rio and Nichteroy and are finding much favor. Concrete machinery for making these pipes should find sale here, as the output at present is limited and does not supply the demand. In Nichteroy the tiles used are 1 meter in diameter. They are made of reenforced concrete, though it is probable that in a climate where no frost is to be reckoned with there is little need of reenforced concrete being used if the best process is used. As for other concrete machinery, there is not likely to be a large demand in this city, but in São Paulo, Bahia, Bello, Horizante, and other smaller cities it is probable that machinery for building stone and brick would find a market.

Everything considered, the most favorable aspect of the cement trade in Brazil, so far as American enterprise is concerned, is in the matter of establishing cement plants. Such plants would open the market to American concrete machinery of various kinds and constitute an opportunity to get, at least indirectly, a share of the business in a trade which otherwise it is doubtful if American interests can secure.

GLASS TRADE.

IMPORTATIONS INTO MEXICO.

PROGRESO.

OLD CUSTOMS GIVE WAY TO MODERN UTILITIES.

Consul Edward H. Thompson, of Progreso, reports that until recently Yucatan has followed the ancient building customs of the Spanish tropics, viz, immense doors (zaguanes) and windows, grilled and barred iron openings, some stone fretwork, and almost no glass. He reviews former and present conditions of the glass trade as follows:

In some of the most palatial dwellings there were small inlaid glass panes, in various colors, placed within the upper portions of certain alcoves and arches, but they were in themselves so few and insignificant as not to be worth mentioning commercially. Previous to 1897 the glass imported was principally in the form of the elaborate glass chandeliers and mirrors. They were at that time immense and intricate affairs, of great weight and consequent cost. No social or official function was considered to be complete that was not graced by the presence of these glistening masses of pendant prisms, graceful curves, and reflecting surfaces.

Besides these were the less ornate, but still large and sometimes costly white glass cylinders, used by the better class to protect their wax tapers from the erratic wind drafts. Glass goblets, tumblers, and mirrors of the ordinary kinds were certainly in use, but even so they were not considered of sufficient importance to merit special description on the official customs list of imports. So far as records were concerned, ten years ago there was not a single large piece of clear plate glass, outside the cathedral and larger church shrines, in all Yucatan.

BEGINNING OF IMPORTATIONS.

My investigations on the importation of plate glass for show cases and windows into this consular district produced no results in figures until the fiscal year 1896-97, when there was an importation of plate and beveled glass amounting to \$650 American currency. During the same period there was also imported ordinary window glass to the value of \$380, and glass dishes of the cheaper grade, oil and shrine lamps, of colored and decorated glass, to the value of \$1,900. Thus the total amount of glass imports into this consular district for the fiscal year of 1896-97 were about \$3,000.

Since that period there has been a general awakening as to the utilitarian value of plate and ordinary glass, not only as a protection against dust and vermin, but as a means for the suitable display of fine goods, and even for ornamental decoration. Now a large show case or a handsome display of goods in a full-sized plate-glass window has become such a common sight in Merida and the other large cities

of Yucatan that they attract but little attention from anybody except the curious natives of the pueblos. During the fiscal year 1906-7 the following glassware was imported into Yucatan in kilos of 2.2 pounds each, the values being in American currency and including customs duties:

Articles.	Kilos.	Value.	Articles.	Kilos.	Value.
Plate, beveled, and window glass.....	45,818	\$11,529	Glass tiles.....	4,588	\$378
Ordinary glassware.....	100,910	28,585	Miscellaneous.....		110
Eyeglasses and watch crystals.....	238	2,619	Total.....		43,221

Austria, Germany, United States, France, England, China, and Japan, in the order of importance as named, were the exporting countries. The United States and England furnished the ordinary plain and plate glass, Austria and Germany the glass toys and cheaper glass articles, France the mirrors and chandeliers. China and Japan furnished certain classes of decorated glassware, and shrine lamps, as well as glass beads.

INTRODUCTION OF GLASS TILES—BOTTLE EXPORTS.

About five years ago the first glass tiles were brought into Yucatan, and they have proved very useful, although their sale has not proved as satisfactory as was prophesied. They are of the same size and shape as the terra-cotta ones made in France, and are designed to be placed at any desired portion in the tile roof, by the simple removal of the earthen tile and its substitution by a glass one. By their use light can be thrown on and let into many otherwise obscure passages, storehouses, and chambers. It has always seemed to the writer that here is a chance for American bottle makers and glass manufacturers to work up their slag, or whatever their waste or cheap material may be termed, into tiles for the tropical trade.

These tiles should be of almost an opaque nature, the denser the better, as too much light passing through would be an objection. The color would probably not matter greatly, if it were uniform. A brick red and the brown bottle color are probably the ones that would be most acceptable. If any glass manufacturer cares to try the experiment, a sample tile would be sent from this consulate, which would also cooperate and furnish disinterested advice.

Although Yucatan has no glass factories nor silicate sands, the province has for several years been exporting considerable quantities of glass, viz, empty beer bottles. It was a question how to get rid of these until a foreigner came and started their shipment to the breweries in other Mexican States. Yucatan has become an extensive consumer of bottled beer.

SALTILLO.

AMERICAN TRADE ADVANTAGE IN THE STATE OF COAHUILA.

The following information as to the importation of glassware into the Saltillo district is gathered from some of the leading dealers in that Mexican city by Consul Thomas W. Voetter, and not from official sources, these, he states, not being available:

The window glass used here is manufactured in Belgium and is shipped via the port of Tampico. The quantity imported per year amounts to about six carloads, and the cost per car at the factory is given as 2,400 francs (\$463.20); the cost of freight, duties, and all charges is given as \$660 Mexican (\$328.68 United States currency) per car, making a total cost per car laid down at Saltillo of \$791.88. The dealers state that the cost of the glass is about one-third less than the best quotations they can get from factories in the United States. Part of the difference in cost arises from the fact that there is but one handling of the shipment en route, that at Tampico, and that there is less liability to breakage and less delay than if the glass were shipped from the United States. One dealer, speaking of glass and stating that he had the same experience in other lines, complains that he can not get quotations from the United States which would give prices of goods laid down at Saltillo, transportation and duties paid. He can get the quotations from Belgian dealers. He also referred to the short credits allowed by American merchants.

There is one feature about the market for window glass at this place which would give American manufacturers an advantage, provided they could meet the competition in prices and terms, which is that the users of the glass here demand sizes in inches instead of centimeters, and in many cases for particular sizes the Belgian merchants demand a higher price than for the rest of their output. This use of sizes in inches would indicate that the trade here at one time had been supplied from England or the United States.

The glass mostly used is that which would be called second class in the United States, for the Mexican import duties being calculated upon the weight of the articles, the difference in price is a great inducement to use the lighter grades.

PLATE GLASS, BOTTLES, MIRRORS, AND TABLEWARE.

Plate glass is not carried in stock by any house here. The demand is light and variable. When any building requiring plate glass is to be constructed, a special order for the sizes required is given. What little is used comes generally from Germany or Belgium.

Some wine bottles are used in the section of Coahuila around Parras, and they are imported from Germany and France. It is stated that the bottles which were imported from the United States did not give satisfaction. The bottles used by the manufacturers of mineral waters come from the United States, these having proved to be the most satisfactory. The prescription bottles used by the retail druggists come principally from Germany on account of being lower in price. Another reason is that the physicians use the metric system when prescribing, and the bottles made in Germany conform to that system in the various sizes, while those made in the United States generally do not.

The importations of mirrors of all kinds amount to about \$1,000 gold per year. Nearly all come from Germany.

The sale of tableware, such as tumblers, dishes, etc., amount to about \$2,500 gold per year. The importations come from several countries, but the United States, France, and Belgium are the leading sources of supply. A small quantity of fancy glassware of Austrian or Hungarian origin is kept in stock by a few retailers.

AGUASCALIENTES.**DEVELOPMENT OF TRADE—DIFFERENT CLASSES OF GOODS PURCHASED.**

The importations of foreign glass into Aguascalientes is stated by Consul W. D. Shaughnessy to be comparatively small, the trade being as follows:

It is only about seven years ago that the first carload of foreign glass was placed on the market, and until this carload was received a native glass manufactured in the vicinity of Mexico City was used entirely. The latter is of a very poor quality, uneven, wavy, and of a greenish color, which, under cold climatic conditions, will crack and break.

The approximate value of window glass imported into this district is estimated at about \$4,500 gold per annum. This includes the freight, duties, and all expenses at destination. All the window glass imported is purchased from Belgian manufacturers, arriving in Mexico at the ports of Veracruz and Tampico, in thin sheets from 1 to 1½ millimeters thick, and in thick sheets, double strength, from 2 to 3 millimeters thick.

Plate glass is not marketed to any extent owing to the small demand. Those having plate-glass windows in their houses or stores have imported them direct or through agents in Mexico City. Fancy glass consisting of dishes, pitchers, glasses, and colored window glass is imported mostly from the United States, Belgium, and Germany. The approximate value of this class of glassware is \$3,750 gold per annum. [The names of firms at Aguascalientes handling glass are listed at the Bureau of Manufactures.]

VERACRUZ.**GERMAN SALES LEAD AT THE LARGEST ENTRY PORT.**

Consul W. W. Canada states that Mexico's imports of glass at the port of Veracruz for the six months ended December 31, 1907, reached the value of \$334,867, United States currency, and cover nearly every article mentioned in the tariff, the various supplying countries being as follows:

Germany furnished the bulk of the shipments, or 60 per cent, amounting in value to \$204,248. France was next in order of importance with \$44,326, or 13 per cent, followed by the United States with \$31,017, or 9 per cent. Other countries worthy of mention are Belgium with \$17,000, Austria with \$15,613, and England with \$15,374.

Germany's exports to Mexico consist of fine glassware, large quantities of common bottles, cheap mirrors, etc. The value of similar goods imported from the United States amounted to \$18,765. This sum, however, represents more than one-half the value of all American exports of glass to this country by way of Veracruz. Belgium and Germany are the principal exporters of plate glass.

It has always puzzled American exporters how properly to declare their goods. The import duty is based upon either legal, net, or gross weight of an article. [A complete statistical table furnished by the consul showing the detailed importations of all kinds of glass

into Mexico for the last six months of 1907 from each supplying country, and the rates of duty, may be obtained from the Bureau of Manufactures.]

CIUDAD PORFIRIO DIAZ.

SOURCES OF SUPPLY OF PLATE AND WINDOW GLASS.

Consul Luther T. Ellsworth reports that chief imports of glass through the port of Ciudad Porfirio Diaz for the past two years were as follows:

Country.	Plate glass.		Window glass.	
	1906.	1907.	1906.	1907.
United States.....	\$24,320	\$23,068	\$9,741	\$25,956
Germany.....	6,520	12,175	2,789	-----

[The exports of window glass from the United States to Mexico amounted to \$20,364 in the fiscal year 1906, and \$29,004 in 1907, while all other glass going to Mexico from this country amounted to \$490,134 and \$524,629 in these respective years. For comparative purposes it may be stated that Canada purchased from the United States \$15,529 worth of window glass and \$838,295 of other glass in 1907, while the next best customer is Cuba, where \$170,980 worth of American glass goods were shipped in 1906. In no other country in the Western Hemisphere, Canada excepted, does the American glass trade amount to one-half that of the Cuban.—B. of M.]

MANZANILLO.

PRESENT DEMAND QUITE SMALL—INCREASING USE AT COLIMA.

Consul Carl F. Deichman, of Manzanillo, reports that the amount of window and plate glass imported into that Mexican city is as yet quite small, few of the houses being provided with glass windows. Its use, however, is increasing in the city of Colima, glass now being used in the construction of all modern buildings, and plate glass cases for the display of goods in the stores. The amount of window and plate glass imported at Manzanillo last year was 7,286 pounds, valued at \$146, and came from Belgium. The imports of manufactured glass and glassware for the same period from the United States was \$740, from Austria \$750, and from Germany \$494. [Importers of glass and glassware in Manzanillo and Colima are listed with the Bureau of Manufactures.]

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

GERMANY.

MANUFACTURERS HOLD ANNUAL DISPLAY OF LEATHER GOODS AT BERLIN.

Consul-General A. W. Thackara makes the following report on the third official Exposition of the Shoe and Leather Industries, which was recently held in Berlin, under the auspices of the German Association of Shoe Dealers:

The exhibition was the most successful of its kind ever held in Germany, not only from the point of view of the promoters, but also for the exhibitors. The exhibits, which were well arranged and attractively presented, filled the two large halls of the building. The large number of machines shown for all branches of the shoe and leather industries, and the general interest manifested, evidenced the fact that in recent years Germany has made great strides in the manufacture of shoes.

It is claimed that during the five days on which the exhibition was open to the public there were 45,000 visitors. Special trains were run from several parts of Germany to Berlin, and one even from Vienna. A temporary post and telegraph office and telephone cabinets were provided, all of which were well patronized.

The exhibition, although comprehensive, was national in its scope, as practically all the exhibits were of German origin, the only exceptions being a few from Austria-Hungary, England, Denmark, and the United States. The latter consisted of machinery, carborundum wheels, shoe polishes, etc.

GROUPINGS OF THE EXHIBITION.

According to the official catalogue there were 453 exhibitors, 431 of which were German companies, firms, or private individuals. The exhibits were divided into ten different groups, under some of which quite extensive lines were shown.

In the first group there were tastefully displayed all kinds of ready-made shoes, workmen's shoes, fine men's and women's shoes, sporting shoes, shoes for house wear, over-gaiters, rubber shoes, and children's shoes, by 158 different exhibitors. From the character and style of the shoes it was easily to be seen that the nature of the German product has changed, and that the Germans are catering to the demand for the American shapes and finish.

In the second group various kinds of leather were exhibited—upper, sole, and lining leather, glove leather, leather for the manufacture of pocketbooks, automobile and wagon leather, harness, saddle, and belt leather, and leather for technical purposes. Under this division there were 62 exhibitors.

One of the most important of the groups was the third, in which were exhibited machinery and machine tools for the preparation of leather for the manufacture of shoes, for making saddles and pocketbooks, and in fact all kinds of machinery used in the shoe and leather industries. In this group there were 48 exhibitors.

In this group was by far the most interesting exhibit in the exposition—that of a Frankfort company. Its stand was fitted as a modern shoe factory—with a complete line of machinery, containing all the newest and best ideas from the United States and Germany, all in complete operation. With the aid of upward of 100 machines and a large staff of operatives, large quantities of finished shoes were turned out daily. The exhibit of this company was at all times the center of attraction.

Another interesting exhibit in this group was that of a firm at Weissenfels, which showed the Mackay system, in all its details, by machinery in operation.

There were numbers of other machines which appeared to be reproductions of American ideas built by German concerns, and some of the older types were copies of original American machines. While there was nothing that would be strikingly new to the American shoe manufacturer, yet the exposition was an object lesson which indicated the great progress which the Germans have made in the past five years in the manufacture of shoes by the adoption of improved shoe-making machinery and up-to-date shop methods.

AMERICAN INFLUENCE—MISCELLANEOUS ARTICLES.

Leather ware of various kinds, including trunks and saddlers' articles, were exhibited in group 4 by three exhibitors.

Under group 5 were shown shoe findings, such as lasts, stamps for cutting leather, thread, silk, needles, cement, colors, lacquers, polishing materials, shoe buttons, eyelets, hooks, etc. The products of the Carborundum Company were artistically and attractively displayed by its American representative in Germany. There were 48 exhibitors in this class.

Articles for saddlery and trunk manufacture were displayed in group 6 by one exhibitor.

In group 7 there were shown articles usually sold in retail shoe stores—shoe creams, blacking, trees, polishing cloths, shoe strings, fancy shoe buckles, spurs, insoles, etc.

Fixtures for fitting up retail shoe stores, including window decorations, electric and gas lighting apparatus, cash registers, calculating machines, time clocks, trying-on chairs, etc., were shown by 42 exhibitors under group 8.

In group 9 the technical journals of the shoe and leather industries were exhibited. Of these 7 were German, 4 Austrian, 1 Russian, and 1 published in Holland.

Under group 10 there were displayed by 39 exhibitors various products, all pertaining more or less to the manufacture of shoes and leather, which were not included under the foregoing groups.

CHILDREN'S SHOE COMPETITION—AMERICAN FOOTWEAR.

An interesting feature of the exposition was the children's shoe competition. There were 28 firms and private individuals entered,

and a gold medal was given to the competitor who produced the best appearing, the most hygienic, and the most correct fitting shoe for children and infants. The exhibits in this competition clearly indicated that the pointed toe which forces the child's foot into an unnatural position has been replaced by the broader forms which are more conducive to hygiene and comfort.

While the exposition has graphically illustrated the improvement which has been made in late years by the German manufacturers of shoes, the fact remains that there is still a market for the American product. A great part of the advance is unquestionably due to the remarkable demand for American shoes, created by the American shoe companies doing business in the principal cities of Germany. The Germans were quick to appreciate the merits of the American-made shoe, and to supply the wants of their customers the German manufacturers have concentrated every effort to make their products along the lines and styles of the American footwear.

Notwithstanding the strong competition from the native-made shoe which the American dealers have to meet, a great number of American shoes are purchased annually in Germany. At the present time there are seven modern, well-equipped retail establishments in this country in which only footwear made in the United States is kept and sold. In addition, the proprietors of several of the American stores have a lucrative wholesale trade among German shoe dealers in the smaller provincial cities. The business in 1907 of two of the largest American shoe dealers in Berlin surpassed all previous records.

BERLIN OFFICE APPLIANCE EXPOSITION.

Deputy Consul-General John W. Dye writes that the second annual General Exhibition of Office Requisites is scheduled to take place at Berlin from October 24 to November 3 of this year.

The exposition is backed by many of the leading office supply men of Germany, and from all present indications should be a successful show. Foreign exhibitors are cordially invited to take part and are advised to send in their applications as soon as possible, as much of the available space has already been reserved by the 75 or more firms who have applied. American concerns having small patented labor-saving devices are especially invited to exhibit, and can make arrangements for showing their goods without renting an entire booth by addressing the director, Herrn A. Willner, Exhibition Building, Zoological Garden, Berlin, Germany.

The grouping of exhibits will be as follows: (1) Mechanical time-saving devices, including typewriters, calculating machines, duplicating and copying machines, phonographs, etc.; (2) accessories for articles classified under group 1; (3) office furniture and equipment; (4) office supplies, including books, inks, etc.; (5) appliances for technical offices; (6) card and filing systems; (7) transportation and communication facilities; (8) collective exhibits; (9) business education; (10) literature.

[Full details of the foregoing classification, a list of exhibitors who have already reserved space, map of the halls, rules of the exposition, rates, and application blanks can be obtained from the Bureau of Manufactures on application.]

Germany presents an extensive and growing market for office supplies of all kinds, and American manufacturers of practical articles wishing to extend their export business will do well to consider this opportunity.

PHOTOGRAPHIC EXHIBITION AT DRESDEN.

The German ambassador at Washington transmits a programme and announcements of the International Exposition of Photography to be held in Dresden in 1909, and at the request of the Royal Government of Saxony notifies the Government of the United States that Mr. Frank R. Frapie, of No. 6 Beacon street, Boston, Mass., delegate of the active committee, is proposed as commissioner for the United States. [The programme, etc., referred to are filed for public reference at the Bureau of Manufactures.]

CANADA.

WESTERN FOOD SHOW AND GROCERS' EXHIBITION.

Consul John E. Jones advises that Winnipeg has been selected as the place to hold the second annual Food Show and Grocers' Exhibition of Western Canada, concerning which he writes:

The success which attended the exhibit last year and the material benefits which accrued to the exhibitors has encouraged the projectors, and an exhibit is advertised for this year which will eclipse anything ever held in western Canada. The food show will open June 8 and continue for two weeks, closing in time to permit exhibitors to follow the food-show circuit, and participate in the larger industrial exhibitions. The large quantities of foodstuffs which are annually imported into western Canada emphasize the importance of these food shows to American manufacturers. The show closes in ample time for exhibitors to attend the Dominion exhibition at Calgary, which opens June 29 and closes July 9. Then exhibitors may return to Winnipeg in time for the opening of the Annual Exhibition, which begins July 11 and continues six days. [A plan of exhibition hall, with booths numbered and price of each indicated, is filed with the Bureau of Manufactures.]

SPAIN.

AMERICANS INVITED TO PARTICIPATE IN SARAGOSSA CENTENNIAL.

Señor R. Piña y Millet, Spanish minister at Washington, advises the Government of the United States that there will be held in the historic city of Saragossa from October 14 to 20 next an international congress of the war of independence and its epoch, in connection with the celebration of the centennial of the siege of that city. He transmits several copies of the programme and regulations (obtainable from the Bureau of Manufactures) and cordially invites delegates of the scientific and historic societies of the United States to participate.

EDUCATION.

MODERN ADVANCEMENT.

GERMANY.

SALARIES OF MEN AND WOMEN TEACHERS IN THE SCHOOLS OF STRASSBURG.

Noting the discussion of the question in the United States, Consul William J. Pike, of Kehl, furnishes the following statistics relative to the salaries paid to school teachers in Germany:

Strassburg is a city of some 170,000, and while it gives special educational advantages, and is regarded as a seat of learning, the salaries paid to teachers in the public schools may be taken as a fair average of the salaries paid in German cities of this class. The following statement gives the new scale of wages for men and women teachers in the elementary schools of Strassburg as recently adopted by the board of education, reduced to American currency:

Years of service.	Men teachers.		Women teachers.	
	Old scale.	New scale.	Old scale.	New scale.
1 to 3.....	\$333.20	\$342.72	\$304.64	\$333.20
4 to 6.....	371.28	390.32	316.54	380.80
7 to 9.....	409.36	461.72	328.44	428.40
10 to 12.....	437.44	509.32	352.24	476.00
13 to 15.....	504.56	580.72	387.94	523.60
16 to 18.....	561.68	652.12	423.64	571.20
19 to 21.....	618.80	723.52	459.34	596.00
22 to 24.....	675.92	794.92	495.04	618.80
25 to 27.....	714.00	842.52	518.84	642.60
28 to 29.....	752.08	890.12	* 542.64	* 666.40
30 and upward.....	780.64	937.72		

* Twenty-eight years and upward.

ADDITIONAL PAY AND OTHER PARTICULARS.

In addition to the foregoing the married male teachers as well as single male teachers upon whom some one is dependent for support, receive \$38 per annum to the ninth year of their service, and \$62 thereafter.

The male principals of these elementary schools receive an additional \$119 to the above schedule. If, however, the principal is at the head of a school with less than five classes, he receives only \$12 additional for each class. Hereafter, it is provided that the male principal of a school, in which there are more than five classes, must have passed the examination required of a teacher in the secondary as well as for the elementary schools. The maximum salary of a male principal or teacher, excepting the additional wage given to married men and those upon whom their families are dependent, and the extra compensation given the principals, is \$938.

The male supervisor of drawing and the physical director receives an additional \$119 to the regular schedule. The male teacher not having taken the final examinations entitling him to a recognized teacher's certificate can not receive a salary exceeding \$333.

The women teachers who also act as principals receive in addition to the salary shown in the foregoing statement \$95, but in case the school has less than five classes, they receive an additional salary of only \$12 per class. Women teachers, supervising work such as drawing and domestic science, receive an addition of \$119. The woman teacher who has not taken the final examination, entitling her to a recognized teacher's certificate, receives a salary of only \$310. If a teacher is provided with a dwelling by the school, she pays 10 per cent of her salary for the same.

SECONDARY AND KINDERGARTEN SCHOOLS.

Both men and women teachers of the secondary schools are paid according to the schedule for the elementary teachers, but receive the following amounts additional: Men principals, \$119; Women principals, \$95; Men teachers, \$95; Women teachers, \$71.40. Besides this additional salary, the principals receive \$12 for each class under their supervision. If teachers in the elementary schools are appointed to positions in the secondary schools, before they have passed all the examinations required of secondary school teachers, they receive an additional salary of only half the foregoing increase.

The superintendents of certain of the largest schools receive an additional salary of 1,200 marks (\$285.60).

The salaries paid the women principals in the kindergarten schools are as follows:

Years of service.	Old scale.	New scale.	Years of service.	Old scale.	New scale.
1 to 3.....	\$280.84	\$333.20	13 to 15.....	\$399.84	\$452.20
4 to 6.....	316.64	368.90	16 to 18.....	428.64	476.00
7 to 9.....	352.24	404.60	19 to 21.....	447.44	499.80
10 to 12.....	376.04	428.40	22 and upward.....	471.24	523.60

The salaries of assistants in the kindergarten schools are as follows:

Years of service.	Old scale.	New scale.	Years of service.	Old scale.	New scale.
1.....	\$71.40	\$95.20	10.....	\$190.40	\$238.00
2.....	85.68	119.00	11 to 12.....	190.40	251.80
3.....	99.96	142.80	13.....	214.20	285.60
4.....	119.00	166.60	14 to 16.....	238.00	285.60
5 to 6.....	142.80	190.40	17 to 18.....	261.80	285.60
7 to 8.....	166.60	214.20	19 and upward.....	285.60	285.60
9.....	166.60	238.00			

Assistants, or monitors, begin at the age of 14 years or later, and for three years serve in that capacity under the direct instructions of the principal, receiving during this period \$14 for the first year; \$29 the second year, and \$43 for the third year. Thereafter they are paid according to the foregoing statement. These monitors, after having served three years, are permitted to continue with their instruction in the school if their first three years have demonstrated that they are capable of becoming proficient teachers.

This new scale of salaries means an additional expenditure to the city of Strassburg of 176,000 marks (\$41,888) annually.

PUBLIC SCHOOL STATISTICS.

HIGH PERCENTAGE OF ATTENDANCE—PER CAPITA COST.

Consul-General Richard Guenther, of Frankfort, reports that there were 61,198 public schools in Germany in 1906, attended by 9,779,356

pupils, or 94 per cent of all German children of school age, leaving only 6 per cent for all other schools, including home training. Since 1901 the school attendance shows an increase of 9.1 per cent. During the same time male teachers show an increase of 10.6 per cent and female teachers an increase of 30.5 per cent. The annual average cost per pupil for public school education has increased from \$11.20 in 1901 to \$12.86 in 1906. The average number of scholars to each teacher was 58 in 1906, some having as high as 85 pupils and others as low as 33.

PARAGUAY.

THE GOVERNMENT IS ESTABLISHING AN EXTENSIVE SYSTEM OF SCHOOLS.

Consul Edward J. Norton, in the following report from Asuncion, describes the public school and college system of Paraguay:

The primary schools of Paraguay are under the direction of the national board of education. In 1907, at the close of the scholastic year, there were 383 primary schools in the Republic, divided into four grades. During the year 698 teachers attended to the instruction of 39,749 pupils. The number of pupils in the primary schools during the past year shows the surprising increase of 10,000 over the year 1906.

The government maintains five colleges throughout the Republic, corresponding in grade to the high schools of the United States. The teaching staff and number of students attending these colleges are shown in the following table:

College.	Professors.	Students.	College.	Professors.	Students.
Asuncion.....	37	417	Encarnacion.....	6	37
Villarrica.....	8	77			
Concepcion.....	6	37	Total.....	62	615
Villa Pilar.....	5	47			

With the exception of Asuncion, the cities in which these colleges are located are small, and only one of them—Villarrica—is connected with the capital by rail. Concepcion and Villa Pilar are situated on the Paraguay River and Encarnacion on the river Parana.

The Normal Training School for teachers is a well-directed institution. The faculty numbers 58 professors, and during the past year was attended by 119 candidates.

NATIONAL UNIVERSITY—EDUCATING YOUNG MEN ABROAD

The National University at Asuncion was founded in 1890. Its principal divisions are:

	Professors.	Students.		Professors.	Students.
Law and social sciences.....	12	61	Special college of obstetrics.....	6	37
Medicine.....	21	30			
Pharmacy.....	7	14	Total.....	52	194
Notarial training.....	6	52			

The National University, as well as the National colleges, are directed by the superior board of education, composed of seven members, who serve for four years. The university is well equipped with laboratories and scientific instruments of the most modern type. The

library attached to the university consists of 2,500 well-chosen volumes, and, in addition, the students have the privileges of the National Library of the Republic, founded in 1871, with over 6,000 volumes.

The National College of Agriculture and experimental farm are located a short distance from Asuncion.

Four large private schools are conducted in Asuncion, two of them under the direction of the Sisters of Charity.

Through scholarship funds the Paraguayan Government maintains about twenty young men in Europe and the United States. These young men, upon concluding their studies, are under an agreement to return to Paraguay and assist in the spread of education. Among these special students are civil and mechanical engineers, electric and hydraulic engineers, electricians, chemists, and veterinary surgeons, and those taking courses in agricultural science, arts and manufactures, and commerce. The Government is giving special attention to practical science, and has with keen foresight selected these specialties which are to-day and will be in the future necessary for the development and progress of the country.

The appropriations made in 1907 for the department of justice and public instruction exceeded \$500,000. Paraguay is a small, isolated, and thinly settled country, but, nevertheless, its present system of public education has been built up under great disadvantages and at great sacrifices in less than forty years, and the country deserves much credit for its progress in this line. Plans are proposed for increasing and developing the scope of educational work, while the people are interested in their schools.

CHINA.

BRITISH ENCOURAGEMENT TO CHINESE STUDENTS.

Consul-General Amos P. Wilder forwards a newspaper clipping from Hongkong which describes an organized effort to encourage the going to England of Chinese students for education. An extensive standing committee of prominent British citizens and educators in both England and China has been formed as an adjunct of the China Association in London and will have the matter in charge. The consul-general adds the suggestion that the educational authorities in the United States effect an organization for the same purpose.

MISCELLANEOUS.
FOREIGN TARIFF CHANGES.
AUSTRALIA.

METHOD OF PAYMENT OF DUTY ON ADVERTISING MATTER.

The British Board of Trade is in receipt of the following memorandum issued by the Commonwealth Postal Department giving revised regulations regarding the duties payable on advertising matter sent by post from abroad to places in Australia.

The following provisions are made in the customs tariff respecting the duties leviable on advertising matter imported into the Commonwealth [1 English penny = 2 cents American]:

Articles.	Tariff Item.	General tariff.	Tariff on goods the produce or manufacture of the United Kingdom.
Advertising matter (viz, catalogues, etc.), except as specified below.....	356A	Pence per lb. 6	Pence per lb. 6
Catalogues, price lists, show cards or pictures issued by or referring to the goods of any manufacturer or producer not having an established place of business in Australia, and all printed matter the property of any public institution and intended for deposit and exhibition therein.....	356B	Free.	Free.
Australian directories, guides, and time tables.....	356C	6	4
Magazines containing advertisements.....	356D	Free.	Free.

[The general tariff is applied to goods from the United States.]

It is stated that the rates given under items 356 (A) and (C) apply to all the advertising matter mentioned therein, introduced through the post, and even when forwarded in single copies addressed to individuals, except in cases where the total duty on any one mail addressed by any one consignor to any one State of the Commonwealth does not exceed 1 shilling (24.3 cents) when the payment of duty is waived. The duty may be paid by any one of the methods specified hereunder:

(a) The weight of any one mail may be bulked by the consignor, and the duty payable may be remitted in one sum to the deputy postmaster-general of the State to which the advertising matter is addressed.

(b) The duty may be paid on the total weight of any one mail by the consignor's agents in the Commonwealth.

(c) If neither of the above methods be followed, duty is to be collected upon the packets containing the catalogues, etc., according to the following scale:

	Duty calculated at—	
	6d. per lb.	4d. per lb.
1d. for.....	3½ oz.	4 oz.
2d. for.....	6½ oz.	8 oz.
3d. for.....	9 oz.	12 oz.
4d. for.....	12 oz.	16 oz.
5d. for.....	14½ oz.	-----
6d. for.....	16 oz.	-----

BRAZIL.**INCREASED DUTY ON SUGAR.**

By the decree of March 27, 1908, the duty on sugar of all kinds originating in countries which do not pay any bounty on that article has been raised by the Brazilian Government from 200 to 400 reis per kilo (from \$0.077 to \$0.154 per 2.2 pounds).

CANADA.**REMOVAL OF EMBARGO ON HEMLOCK BARK.**

Consul-General John G. Foster reports from Ottawa, under date of April 2, that on account of the accumulation of a large supply of hemlock bark in the Province of Ontario, the provincial government has, by an order in council, removed the embargo which in the past has prevented the export of bark to the United States. This order in council is to remain in force until August, 1909.

COLOMBIA.**INTERNAL REVENUE TAX ON TOBACCO—EXPORT TAX REMOVED.**

Consul Isaac Manning reports from Cartagena under date of March 27 that the Colombian Government has issued a decree reducing the internal-revenue tax on tobacco manufacture from 15 cents to 10 cents per kilo (kilo 2.2 pounds.) The reduction will be made at the rate of 1 cent bimonthly. The Government has also decreed the elimination of the fluvial or inland river tax on articles exported from the country.

DENMARK.**PETROLEUM AND RICE NOW ON FREE LIST.**

Dr. Maurice Francis Egan, American minister at Copenhagen, Denmark, telegraphs the Department of State that petroleum and rice are now on the free list.

JAPAN.**REFUND OF CONSUMPTION TAX ON SUGAR.**

Consul-General Henry B. Miller reports under date of March 11, 1908, that the Japanese Diet had just passed the bill introduced by the Government providing for the refunding of the consumption tax on sugar when used in manufacturing condensed milk in Japan. He adds:

The date on which this new law was to become operative was April 1, 1909, in the original bill, but it was amended to read April 1, 1908, and passed as amended. It is stated by a Government official that ten years ago the product of condensed milk in this country was more than 150,000 cases (a case containing 48 1-pound cans) per annum, but that with introduction of the consumption tax on sugar in 1901 and subsequent increase in taxation, the production in recent years was reduced to less than 20,000 cases, and that the market was practically controlled by the imports.

CONSUMPTION TAX ON PETROLEUM.

Consul-General Miller likewise reports from Yokohama that by an extra edition of the Japanese Government Official Gazette dated

March 16, 1908, the petroleum consumption law, recently passed by the Diet, was promulgated and came into force immediately. By this law petroleum consumed in that country is taxable at the rate of 1 yen per koku, or 49.8 cents per 47.653 United States gallons. When petroleum, on which the consumption tax had been paid, is exported, the amount corresponding to the tax so paid will be refunded.

The consul-general states that the bill presented to the Diet by the Government placing crude oil on the dutiable list of the tariff has been amended in the House of Representatives, and is now in the hands of the committee in the House of Lords.

HONDURAS.

REMOVAL OF EXPORT TAX ON GOLD AND SILVER.

Consul William G. Alger reports from Tegucigalpa, under date of March 21, that the export tax of 12 per cent ad valorem on crude silver and 2 per cent ad valorem on gold in bars or dust has been abolished.

MADAGASCAR.

EXPORT DUTY ON BULLOCKS.

Consul J. G. Carter reports from Tamatave under date of January 18, 1908, that the law providing for the nonexportation of cows and heifers from Madagascar and fixing a tax of 2½ francs (\$0.48), on all bullocks exported, up to December 31, 1907, has been extended to December 31, 1908.

SWEDEN.

INCREASE OF DUTY ON READY-MADE CLOTHING.

The British Board of Trade has received a copy of a dispatch from the British minister at Stockholm, reporting that on March 14 both chambers of the Swedish Diet decided to increase the import duty on ready-made clothing made of woven tissues as shown in the following statement:

	Present duty.	New duty.
Ready-made clothing of linen or cotton, not embroidered; ready-made clothing of other materials except clothing with fringes, lace, lining, etc., dutiable at a higher rate than the principal material.	Dutiable as the principal component material with a surtax of— 50%	75%

VENEZUELA.

CLASSIFICATION OF ROOFING MATERIAL.

Minister William W. Russell reports from Caracas the following changes in the Venezuelan tariff regulations:

By an executive decree dated April 8, 1908, "plates for covering roofs, prepared with tar and pebbles," have been placed in the second class of the tariff [dutiable at 0.10 bolivar per kilo or \$0.0193 per 2.2 pounds—B. of M.].

REMOVAL OF SURTAX ON MATCHES AND BITTERS.

By an executive decree dated April 8, 1908, the 30 per cent surtax on matches and Siegert bitters imported through the custom-houses of Venezuela has been removed.

IMPORTATION OF FINE-CUT TOBACCO PROHIBITED.

By the Venezuelan decree of March 20, 1908, the importation of finely cut tobacco as well as the manufacture of that article in the country is prohibited. Custom officers are authorized to confiscate any importations of tobacco of the above description. This decree does not apply to the National Cigarette Factory, in virtue of its contract with the National Executive. The decree was to go into effect twenty days after its promulgation.

ENGLISH RURAL ROADS.**INCREASED COST OF MAINTENANCE AND THE CAUSES THEREOF.**

The following information concerning the increased cost of the maintenance of English roads in recent years, out of all proportion to the increase of population, etc., is furnished by Consul Frank W. Mahin, of Nottingham:

The causes of the increase in cost of the maintenance of rural English roads are two: The changes in the character of vehicular traffic and the enormous increase of the traffic. On the Nottinghamshire roads, it is officially stated, there are ten vehicles now where there was one twelve years ago. Central counties like this seem to be the worst sufferers in this regard, for they catch outside travel from every point of the compass. An official record indicates that about four-fifths of the automobiles traversing the main roads of this county are from other counties.

The average cost per mile of maintaining the Nottingham County roads was \$275 in 1891, \$276 in 1901, and \$322 in 1907. Thus, while the cost increased but \$1 in ten years under former traffic conditions, it increased \$46, or 17 per cent, in six years under the present conditions.

Reports regarding some other counties show a much higher cost and a greater rate of increase than in Nottinghamshire during the past few years. The cost of maintaining all the roads in Hampshire is said to have risen in ten years from \$136,000 to \$316,000. The foregoing figures are astonishing, but they purport to be derived from official records. The total cost of maintaining the rural roads in this county last year was \$107,000, an increase of about 17 per cent during the past decade. The increased cost of road maintenance for all England since 1900 is stated to be about 20 per cent per mile per annum.

A most vexing problem for road officials is what kind of road to make. Ordinary macadam is disrupted by the suction of automobiles and the heavy weight of traction vehicles, but is claimed by many drivers to be the best kind for horse traffic. Smooth composition roads seem durable for motor vehicles, but are objected to by many horse

drivers as slippery and dangerous. At present no kind of road appears satisfactory to both elements, but experiments are being made in this county which it is hoped will eventually result in satisfying the reasonable requirements of every kind of traffic.

NEW DUST-KILLING MACHINE.

SUPERIOR ROADWAY CLAIMED TO BE PRODUCED BY ITS USE.

Consul-General Robert J. Wynne reports that a new tar-spraying machine, which the makers claim will do away with the dust nuisance, has been tested on the roadway in front of the Horticultural Hall, Westminster, London, before practically the whole of the municipal engineers, a large number of county surveyors and suburban engineers, and two representatives appointed by the war office.

After the tar-spraying process a second machine scattered a level layer of granite grit and chips upon the tar, which, when rolled, formed a road with a fine, smooth surface, durable and dustless. A tar macadam road made in this way costs from 3s. 6d. to 4s. (85 to 97 cents) a square yard, as against ordinary macadam, which costs on an average 2s. 6d. (60 cents) a square yard.

PANAMA IMPROVEMENTS.

ISTHMIAN COMMISSION AUTHORIZED TO INSTALL SANITARY SYSTEM.

Consul James C. Kellogg makes the following report from Colon on the new sanitary works and other improvements to be effected at the Panama town of Portobello:

Near Portobello, a small town on the coast about 18 miles northeast of Colon, are located the stone quarries which are to furnish the stone for the great locks at Gatun, Canal Zone. Work on the settlement adjoining the quarries, which is carried on by the Isthmian Canal Commission, is advancing steadily. This new village or settlement is located across the bay, about a mile from the native town of Portobello, and has a present population of about 300. The buildings, completed or under construction, comprise an office building, a residence for the engineer in charge, bachelor quarters, and two barracks for Spanish laborers and one for colored laborers, with mess houses and kitchens. A dispensary and hospital have been authorized, but at present tents are being used for this purpose, and also for the quarters of the district medical officer. A complete system of sewerage and drainage will be inaugurated, together with other sanitation; work was begun in March. A reservoir is under construction, and it is expected that it will be finished in about six months. The water will be obtained from numerous mountain streams, which will furnish an abundant supply.

The Government of the Republic of Panama has given permission to the government of the Canal Zone to establish the sanitary works in the town of Portobello in order to better the hygienic conditions. The sanitary regulations relative to fumigations, quarantine, etc., are to be the same as are enforced in Bocas del Toro, Republic of Panama.

PUBLICATIONS IN ROUMANIA.

GOVERNMENT STATISTICS FURNISH INFORMATION AS TO PARTICULARS.

Consul-General Norman Hutchinson reports from Bucharest that in statistics prepared by the director of posts of Roumania the following information appears:

There are 293 different publications in the country, made up as follows: 30 dailies, 125 weeklies, 101 monthlies, and 37 which appear irregularly. The character and object of 111 of these papers are political, 24 administrative, 7 agricultural, 12 educational, 81 commercial and industrial, 10 economical and financial, 7 ecclesiastic, 6 humorous, 7 judicial, 10 military, 21 medical, 5 sporting, and 41 scientific and literary, etc.

Naturally Bucharest leads, with 160 publications to its credit—23 dailies, 31 weeklies, 70 monthlies, and 36 irregular. After Bucharest is Dolj with 20 publications, Braila with 15, and Jassy with 12.

The total number of publications handled by the Roumanian post-offices in 1906 was 131,218,322. One newspaper sent out during the year 30,600,000 copies; no other daily paper sent out more than 6,000,000.

ELECTRICITY FROM PEAT.

NEW PROCESS TO BE UTILIZED BY POWER COMPANY IN IRELAND.

Consul-General Robert J. Wynne, of London, reports that before a committee of the British House of Commons interesting details were given of the scheme for establishing in Ireland a new electric supply generated by peat gas, the first of the kind in Great Britain. The Dublin and Central Ireland Electric Power Company is seeking powers to supply electricity to portions of counties Dublin, Kildare, Queens, and Kings, and have arranged to purchase 500 acres of peat bog in the district. Hitherto one of the chief objections to the use of peat for generating power is that it contains 90 per cent of moisture and is too expensive to dry. The promoters propose to use a process, common in Germany, by which it is advantageous to retain 50 per cent of moisture in peat, thereby obtaining by-products, such as sulphate of ammonia, which alone would pay the cost of the peat.

GERMAN VITAL STATISTICS.

OFFICIAL FIGURES SHOW STEADY INCREASE IN POPULATION.

Official compilations quoted by Consul-General Richard Guenther, of Frankfort, record the number of marriages which took place in Germany during the year 1906 at 498,990, of births 2,084,739 (including 62,262 children stillborn), of deaths 1,174,464. The birth rate averages about 34 per 1,000 of the existing population. Of the deaths, 374,636 were infants under one year. Germany's population increases at the rate of about 900,000 per year, the result of excess of births over deaths. The loss by emigration has been very slight in recent years.

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FOREIGN WEIGHTS AND MEASURES

The following table embraces such weights and measures used in foreign countries as have been collated from reports of consular officers and other sources:

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS.

Denominations.	Where used.	American equivalent.
Almude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6907 bushels.
Arobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentina.....	25.8175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.8664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.86 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Barril.....	Argentina and Mexico.....	20.0787 gallons.
Berkovetz.....	Russia.....	861.12 pounds.
Bongkal.....	India.....	832 grains.
Bouw.....	Sumatra.....	7,096.5 square meters.
Bu.....	Japan.....	0.119 inch.
Butt.....	Spain (wine).....	140 gallons.
Caffiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	529 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Egypt.....	99.5 pounds.
Do.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7096 pounds.
Cantaro (cantar).....	Malta.....	175 pounds.
Carga.....	Colombia.....	250 pounds.
Do.....	Mexico and Salvador.....	300 pounds.
Catty.....	China.....	1.333 (1 1/3) pounds.
Do. ^a	Japan.....	1.32 pounds.
Do.....	Java, Malacca, and Siam.....	1.85 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Centner.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	93.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Chetvert.....	Russia.....	5.7748 bushels.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3.098 pounds.
Do.....	Siam (Koyan).....	2.667 pounds.
Cuadra.....	Argentina.....	4.2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cwt. (hundredweight).....	Great Britain.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	1 gram.
Dun.....	Japan.....	1 inch.
Eutchek.....	Asia Minor (wheat).....	10.61 pounds.
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.

^a More frequently called "kin." Among merchants in the treaty ports it equals 1.33 1/3 pounds avoirdupois.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Fanega (dry)	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Spain	1.6 bushels.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail	Spain (raisins)	50 pounds.
Frasco	Argentina	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Go	Japan	0.0000817 acre.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	5.965 feet.
Klafter	Russia	216 cubic feet.
Koku (dry)	Japan	5.118 bushels.
Koku (liquid)	do	47.653 gallons.
Korree	Russia	3.5 bushels.
Kota	Japan	5.13 bushels.
Kwan	do	8.27 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,409.2 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11½ bushels.
Do	Spain (salt)	4,760 pounds.
League	Paraguay (land)	4,683 acres.
Li	China	2,115 feet.
Libra (pound)	Argentina	1.0127 pounds.
Do	Castilian	7,100 grains (troy).
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01467 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1½ acres
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82½ pounds.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Honduras and Nicaragua	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.75578 pounds.
Do	Hungary	3.0817 pounds.
Do	Hungary and Wallachia	2.5 pinta.
Do	Turkey	2.81857 pounds.
Pic	Egypt	21½ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133½ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentina	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels. /
Do	London (coal)	36 bushels.
Quintal	Argentina	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, ^a Chile, and Peru	101.41 pounds.

^a Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Quintal	Greece	123.2 pounds.
Do	Mexico	101.46 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	51 pounds.
Sagene	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acre.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9303 inches.
Sho	do	1.6 dry quarts.
Standard	St. Petersburg (lumber measure)	165 cubic feet.
Stone	Great Britain	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.245 acre.
Tierce	Newfoundland	300 pounds.
To	Japan	2 pecks.
Tola	do	180 grains.
Tonde	Denmark (cereals)	3.94783 bushels.
Tondeland	Denmark	1.36 acres.
Tsubo	Japan	35.581 square feet.
Tsun	China	1.41 inches.
Tun	Newfoundland (cod oil)	806 gallons.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentina	84.1208 inches.
Do	Central America	82.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	83.384 inches.
Do	Curacao	83.375 inches.
Do	Mexico	82.992 inches.
Do	Paraguay	84 inches.
Do	Spain	0.99081 yard.
Do	Venezuela	83.384 inches.
Vedro	Russia	2.707 gallons.
Venetian pound	Greece and Mediterranean countries	1.05 pounds.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.668 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES, WITH EQUIVALENTS.

Units.	Equivalents.	Units.	Equivalents.
WEIGHTS.		LIQUID MEASURE.	
Milligram ($\frac{1}{1000}$ gram)	0.0154 grain.	Milliliter ($\frac{1}{1000}$ liter)	0.0338 fluid ounce.
Centigram ($\frac{1}{100}$ gram)	0.1543 grain.	Centiliter ($\frac{1}{100}$ liter)	0.338 fluid ounce.
Decigram ($\frac{1}{10}$ gram)	1.5432 grains.	Deciliter ($\frac{1}{10}$ liter)	0.845 gill.
Gram	15.432 grains.	Liter	1.0567 quarts.
Decagram (10 grams)	0.3527 ounce avoirdupois.	Decaliter (10 liters)	2.6417 gallons.
Hectogram (100 grams)	3.5274 ounces avoirdupois.	Hectoliter (100 liters)	26.418 gallons.
Kilogram (1,000 grams)	2.2046 pounds avoirdupois.	Kiloliter (100 liters)	264.17 gallons.
Myriagram (10,000 grams)	22.046 pounds avoirdupois.	MEASURES OF LENGTH.	
Quintal (100,000 grams)	220.46 pounds avoirdupois.	Millimeter ($\frac{1}{1000}$ meter)	0.0394 inch.
Millier or tonneau—ton (1,000,000 grams).	2,204.6 pounds avoirdupois.	Centimeter ($\frac{1}{100}$ meter)	0.3937 inch.
DRY MEASURE.		Decimeter ($\frac{1}{10}$ meter)	3.937 inches.
Milliliter ($\frac{1}{1000}$ liter)	0.061 cubic inch.	Meter	39.37 inches.
Centiliter ($\frac{1}{100}$ liter)	0.6102 cubic inch.	Decameter (10 meters)	393.7 inches.
Deciliter ($\frac{1}{10}$ liter)	6.1023 cubic inches.	Hectometer (100 meters)	328 feet 1 inch.
Liter	0.908 quart.	Kilometer (1,000 meters)	0.62137 mile (3,280 feet 10 inches).
Decaliter (10 liters)	9.08 quarts.	Myriameter (10,000 meters)	6.2137 miles.
Hectoliter (100 liters)	2.838 bushels.	SURFACE MEASURE.	
Kiloliter (1,000 liters)	1.308 cubic yards.	Centare (1 square meter)	1,550 square inches.
		Are (100 square meters)	119.6 square yards.
		Hectare (10,000 square meters)	2.471 acres.

PUBLICATIONS AVAILABLE FOR DISTRIBUTION JUNE 1, 1908.

The following publications of the Bureau of Manufactures may be obtained, until the supply is exhausted, upon application to the Bureau:

MONOGRAPHS ON SPECIAL SUBJECTS.

- Annual Report of the Chief of the Bureau of Manufactures, 1907. 19 pp. 1907.
Commercial Relations of the United States for 1903. 2 vols. 1,358 pp. 1904.
Cotton-seed Products in Foreign Countries. Reprint, with Appendix: 255 pp. 1908.
Cotton Textile Trade in Turkish Empire, Greece, and Italy. By W. A. Graham Clark. 105 pp., 2 text figs. 1908.
England's Cotton Industry. By William Whittam, jr. 54 pp. 1907.
Export Trade Exploitation. 16 pp. 1908.
Foreign Markets for the Sale of American Cotton Products. 215 pp., 1 text fig. 1907.
Machine-made Lace Industry in Europe. 39 pp., 22 pls., 4 text figs. 1905.
Marketing Goods in Foreign Countries. 164 pp. 1905.
Motor Machines. 80 pp., 2 text figs. 1907. (Part 2 in press.)
Promotion of Foreign Commerce in Europe and the United States. By N. I. Stone. 24 pp. 1907.
Swiss Embroidery and Lace Industry. By W. A. Graham Clark. 43 pp., 2 pls., 5 text figs. 1908.
Trade Conditions in—
 Argentina, Paraguay, and Uruguay. By Lincoln Hutchinson. 101 pp. 1906.
 Asiatic Turkey. By Charles M. Pepper. 45 pp. 1906.
 Australasia. By Harry R. Burrill. 48 pp. 1908.
 Central America and West Coast of South America. By Lincoln Hutchinson. 113 pp. 1906.
 China. By Harry R. Burrill and Raymond F. Crist. 125 pp. 1906.
 Colombia. By Charles M. Pepper. 53 pp. 1907.
 Ecuador. By Charles M. Pepper. 39 pp. 1908.
 India. By Charles M. Pepper. 39 pp. 1907.
 Japan and Korea. By Raymond F. Crist. 48 pp. 1906.
Trade of Turkey. (Annual Series, No. 1.) By Consul-General E. H. Ozmun. 40 pp. 1908.
Winning Foreign Markets. Containing suggestions for the extension of trade by American manufacturers and exporters. 256 pp. 1908.

TARIFF SERIES.

- No. 1. Leather and its Manufactures. 27 pp. 1907.
No. 2. Agricultural and Animal Products. 120 pp. 1907.
No. 3. Machinery, Machine Tools, and Vehicles. 75 pp. 1907.
No. 4. Conventional Tariff of Servia, based on Treaties with Great Britain, France, and Italy. 9 pp. 1907.
No. 5. Commercial Agreement between the United States and Germany. 24 pp. 1907.
No. 6. France. 108 pp. 1907.

No. 6A. Commercial Agreement between the United States and France. 4 pp. 1908.

No. 7. German Customs Union. 125 pp. 1908.

No. 8. New Zealand. (In press.)

No. 9. Montserrat. (In press.)

No. 10. Virgin Islands. (In press.)

No. 11. Bermuda. (In press.)

The following tariffs of foreign countries are also available for distribution:

British West Indies. 32 pp. 1905. (2 supplements.)

Canada. 52 pp. 1907.

Cuba. 30 pp. 1905. (3 supplements.)

Mexico. 37 pp. 1905. (1 supplement.)

Newfoundland. 15 pp. 1906.

The United Kingdom and British Possessions in Europe. 14 pp. 1905. (1 supplement.)

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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

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JULY, 1908

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COMMERCE.

GERMANY.

EXTRAORDINARY KNIT-GOODS SALES.

A RECORD YEAR IN POINT OF VALUE AND WEIGHT OF EXPORTS.

In transmitting the following statistics covering the exports of German knit goods in 1907, Consul Thomas H. Norton, of Chemnitz, says that it is not likely the figures will be again reached for several years:

The German Government has just issued detailed statistics in regard to the export of knit goods during the year 1907, which are of interest from several standpoints. The year 1907 was distinctly a record year in point of value of exports, although the official data are confined to weights, the total exports amounting to 20,540 metric tons.

As the greater proportion of these knit goods are manufactured in the Chemnitz consular district, or in near-by localities, these figures offer an interesting view of the extent of production of the chief articles exported from the region of which Chemnitz is the industrial metropolis. The additional quantity of knit goods manufactured in this section and consumed in the German Empire is estimated at from 10 to 15 per cent of the total output.

The following statement shows the total exports of German knit goods, and the exports to the United States and the United Kingdom in 1907:

Description.	Total exports.	To the United States.	To the United Kingdom.
	<i>Metric tons.</i>	<i>Metric tons.</i>	<i>Metric tons.</i>
Cotton gloves.....	2,152.0	678.3	938.6
Cotton hosiery.....	8,920.2	4,274.4	500.2
Cotton underwear.....	3,622.7	44.8	1,728.3
Cotton fisher nets.....	219.7		
Miscellaneous cotton fabrics, incandescent mantels, etc.....	1,527.1	11.0	1,000.3
Silk gloves.....	173.8	64.5	74.3
Silk hosiery, fabrics, etc.....	97.8	44.1	19.6
Woolen gloves.....	178.6	24.0	24.0
Woolen underwear.....	1,363.1	93.7	580.9
Woolen hosiery, etc.....	2,285.2	50.1	986.0
Total.....	20,540.2	5,284.4	5,912.2

The figures in the preceding statement show that the Saxon knit goods manufacturers are chiefly dependent upon the United States and the United Kingdom for the sale of their products. These two countries absorb over one-half the total amount produced. The industrial welfare of the region is therefore to a very large extent

dependent upon the commercial conditions of these two countries, and also of their colonies and dependencies.

It will be noticed that the United States purchased nearly one-half the cotton hosiery and over one-third of all silk knit goods and cotton gloves, while the amount of woolen goods taken was comparatively unimportant.

CHEMNITZ-AMERICAN TRADE.

CONTINUED INCREASE IN THE EXPORTS TO THE UNITED STATES.

Consul Norton, in forwarding the following exhaustive statistics, reports that the close commercial relations between the textile manufacturers of Chemnitz and the importers of the United States was never before so marked as during the year 1907:

The large increase in the American demand for gloves and hosiery which began in 1906 reached its maximum in the summer of 1907. Every establishment was taxed to its utmost to meet the growing needs of the great jobbing houses in the United States. Wages rose, plants were enlarged, and this section of Saxony exhibited a degree of prosperity unequalled in its history. When the financial disturbances in the autumn of 1907 checked American trade, Chemnitz firms had in most cases booked orders for many months ahead, and it may be roughly estimated that the normal output of the mills was in most cases under contract until the close of March for hosiery and the close of May for gloves.

The following statement covering the exports declared for the United States at Chemnitz during the calendar years 1905, 1906, and 1907 and the first quarter of 1908 shows the steady increase in this trade:

Articles.	1905.	1906.	1907.	1908 (first 3 months).
Cotton hosiery.....	\$4,471,702	\$6,708,727	\$8,141,916	\$2,380,211
Cotton gloves.....	981,784	1,784,401	2,573,857	1,128,578
Silk gloves.....	133,808	636,613	1,150,280	284,764
Silk hosiery.....	105,801	225,287	226,794	46,619
Woolen gloves.....	182,359	254,448	155,089	1,145
Woolen hosiery.....		49,116	57,455	4,318
Underwear.....	107,276	173,193	158,043	39,912
Upholstery goods.....	105,686	93,394	92,318	11,923
Machinery.....	220,467	225,790	289,250	89,836
All other articles.....	268,437	585,906	1,006,824	346,460
Total.....	6,577,385	10,711,915	14,511,326	4,333,766

The inclusion of the first quarter of 1908 in the foregoing statement was for the reason that it marks the close of the effects of the exceptional prosperity in the United States in 1907. The increase, as follows in 1907, in the prices of the leading articles given in the foregoing statement, will help to account for the exceptional prosperity of manufacturers and operatives in Chemnitz: Cotton hosiery, per dozen, January, \$1.39; June, \$1.44; December, \$1.58; January, February, and March, 1908, \$1.50, \$1.49, and \$1.48, respectively. Silk hosiery, per dozen, January, \$3.03; June, \$3.22; December, \$3.41; January, February, and March, 1908, \$3.19, \$3.25, and \$3.14, respectively. Cotton gloves, per dozen, January, \$1.57; June, \$1.59; December, \$1.98; January, February, and March, 1908, \$2.05, \$2.11, and \$2.08, respectively. Silk gloves, per dozen, January, \$3.56;

June, \$4.03; December, \$5.36; January, February, and March, 1908, \$4.16, \$4, and \$3.93, respectively.

The remarkable increase in the shipment of gloves during the past four months is very noticeable, compared not only with the corresponding months of a year previous, but also with any four months preceding the depression in the United States. Upholstery goods alone show a marked retrograde movement during the past few months.

The machines exported from Chemnitz are almost all destined for textile mills in the United States, chiefly for the manufacture of gloves and hosiery.

SUCCESSFUL EXPORT METHODS.

THE SMALLEST MANUFACTURERS CATER TO FOREIGN BUYERS.

In transmitting the following information concerning German export methods, Consul H. W. Harris, of Nuremberg, reports that the smallest manufacturers not only sell to the foreign buyer visiting that district, but have a keen appreciation of the value of the foreign market and a definite purpose to enter it:

There are in this consular district scores of small concerns, employing from 6 to 20 people, which are manufacturing chiefly for the foreign markets. A buyer of toys and fancy articles in Nuremberg and its immediate environs would be apt to visit, and many do visit, from 100 to 125 different factories, many of them small concerns with but few employees, but prepared to manufacture such class of merchandise as will be suited to the American buyer, and which may or may not be suited to the domestic trade. The books of this consulate show that in 1907, 222 different concerns were engaged in shipping to the United States. Allowing for commission houses, which ship in their own names, merchandise from a large number of small factories, whose names do not appear in the consulate's books, the total number of factories whose merchandise enters into the year's shipments runs far into the hundreds.

It is interesting to note that, while the volume of business from the district has steadily increased from year to year, the general character of this trade has remained much the same for many years, the firms themselves changing less than might be expected. Thus 44 of the concerns which appeared as shippers in 1867 appeared in the list of 1907. A page of the invoice book of the former year as to goods and firms, bears a striking resemblance to a page from the invoice book of the latter year. The total declared exports from the district in 1867 were \$1,617,353 as against \$7,211,373 in 1907. As Nuremberg, the chief city of this district, had a population of less than 75,000 in 1867 as against a population of more than 300,000 in 1907, other towns showing somewhat similar growth, the export trade for this district has simply fairly kept pace with the increase in population of the manufacturing centers.

HOW TRADE WITH THE UNITED STATES IS CONDUCTED.

The channels through which this important business is conducted are varied and interesting. Most of them are more or less in vogue in other parts of Europe. They are for the most part not haphazard in character, but are carefully worked out as the result of experience.

Whatever may be said of careless methods that have sometimes been used in selling American goods abroad, the men and the methods employed in buying goods abroad for the American market are unquestionably excellent.

First in importance are the commission houses, of which there are many in this district. Some are large and pretentious, with good buildings, extensive business connections, and abundant capital and credit; others are smaller and less important. These houses are in some cases little more than mere packers and forwarders of merchandise, which has been carefully selected by skilled American buyers who, year after year, come to this locality and visit the factories, examining samples, price lists, etc. But the part taken by such houses is important, if not essential. They are fully informed as to the factories themselves and as to the business of the district. A small manufacturer who would be unable to ship his products to the United States and wait until his money arrived, may be quite willing to sell to a commission house, which is prepared to pay him perhaps the same day his goods are delivered by wagon or perhaps by hand cart pushed by some member of the manufacturer's family. The small manufacturer is apt to become in large measure dependent upon the commission house, and the latter is in position to force prices down to a level, leaving little or no profit to the small manufacturer. The American buyer profits in this reduction of price and through the prompt delivery of his goods, care in packing (usually done by the commission house in its own warehouses), and in other ways. A buyer of large experience for a well-known American concern, stated to the writer recently that he started in as buyer with the belief that he could dispense with the commission house, but that he had abandoned this view as to this market.

MEETING THE WISHES OF THE AMERICAN BUYER.

The commission house may be taken as the typical method in the toy and fancy article trade, which is the chief branch in this district. Other merchandise is sold direct to buyers who come from the United States, or to American firms through correspondence, or through salesmen who make frequent trips to the United States, or through American agents in the United States, who act as sole representatives of firms located here.

Members of many firms located here make frequent trips to the United States and keep in close touch with its business conditions. The number of these that speak English fluently is large. The plan of establishing branch factories in the United States or taking a financial interest in factories therein has grown in favor in recent years, there being now several such cases from this district. The facts noted, and others which might be added, all point to a keen and widespread interest in export trade from this locality. They point also to an intelligent and systematic effort to meet foreign conditions as they exist, and to develop trade in accordance with these conditions.

SAXONY'S AMERICAN EXPORTS.

LARGE DECREASE IN THE TRADE IN MANUFACTURED ARTICLES THIS YEAR.

In furnishing the following statistics concerning the decreased trade of southwestern Saxony (Plauen and Markneukirchen districts) with the United States, Consul Carl Bailey Hurst reports that the exports

of manufactured articles have suffered a reverse that is noticeable in all branches of industrial activity. He says:

The total value of merchandise exported from Plauen to the United States during the three months ended March 31, 1908, amounted to \$773,973, which was \$542,688 worth less than the value of the goods shipped during the corresponding period of 1907. This important decrease is the more striking when it is considered that during the first quarter of 1907 the value of exports was \$485,774 less than during the first quarter of 1906. Thus far in 1908 the heaviest falling off has been in cotton laces and embroidered articles, the value exported in this line during the first quarter of 1908 being \$525,435, as compared with \$1,023,828 during the same months of the previous year, a difference of nearly half a million dollars in a specialty that has hitherto stood conspicuously at the front. There are complaints on all sides as to lessened production and there seems to be little prospect of an early resumption of the former brisk business.

The decrease in other exports to the United States will be seen in the following statement:

Articles.	First quarter of 1907.	First quarter of 1908.	Decrease.
Silk laces.....	\$25,733	\$13,662	\$12,071
Linen embroideries.....	11,436	6,768	4,668
Embroidery looms.....	43,005	9,267	33,828
Cotton hosiery.....	29,000	16,444	12,556
Ladies' cloth.....	100,384	72,408	27,981

The only exports from Plauen showing increases were machine-made artificial silk lace and cambric embroideries.

Statistics at the consular agency at Markneukirchen reveal the fact that depressed business conditions also prevail in altogether dissimilar lines of goods from those produced in the territory adjacent to Plauen. Although it has been mentioned in a number of instances that the falling off in laces, embroideries, and light-weight cloths might be the result of change in fashions, the lessened shipment of the staple musical instruments of Markneukirchen would show that the depression is general in all branches of export from this part of the country. During the first three months of 1908 the value of the goods exported from Markneukirchen to the United States amounted to \$139,653, as compared with \$200,578 during the corresponding quarter of 1907, a decrease of \$60,925. The sharpest decline was in harmonicas, followed by accordions and concertinas, violins, and violoncellos, bows, etc.

ANNABERG SALES DECLINE.

DROP IN SHIPMENT TO AMERICA OF DRESS TRIMMINGS AND TOYS.

Consul George Nicolas Ifft, of Annaberg, in the following report shows the effect on that German district of curtailed American orders for goods:

Declared exports from the Annaberg consular district to the United States for the first quarter of 1908 were \$101,395, as compared with \$205,719 for the same period last year—a decrease of more than 50 per cent. The decrease was pretty equally distributed throughout the entire list of exports, the principal items being dress trimmings

and beaded bags and belts, \$142,381 for the first quarter of 1907, dropped to \$64,795 for the same period this year; beaded fringes, from \$14,371 to \$6,485; buttons (fancy and crochet), from \$18,619 to \$5,415; paper novelties, from \$14,479 to \$6,904.

The decrease in Annaberg exports is due in part to the financial situation in the United States, but in still larger measure to the changing fashions, which have almost wiped out the demand for Annaberg dress trimmings. Some factories have closed down entirely and hundreds of looms in both factories and the homes are standing idle.

WILL CAUSE CHANGED INDUSTRIAL CONDITIONS.

Many of the mountain villages are taking steps to establish other industries, and everywhere the spring visits of the American buyers are anxiously awaited in the hope of a revival of the American business. There seems, however, little hope of recovery this year, if ever, as some of the Americans have already sent word that they are not coming this spring.

The item of toys is the only one on the list that held its own during the first quarter of this year, the declared value for the quarter being \$4,392, as compared with \$5,495 for the same period last year. Few of the exports of Erz Mountain toys, however, are invoiced at this consulate, and the reports from the "Before-Easter Messe" at Leipzig indicate that practically no American orders were placed with the manufacturers of this district. This means hard times in the toy makers' villages, as they have always depended largely on the American trade.

DEVELOPMENT OF EXPORT BUSINESS.

SEVERAL TRADE ASSOCIATIONS FORMED—JOINT TOUR OF THE LEVANT.

Consul-General Richard Guenther supplies the following information upon further movements of Germany to extend the export trade:

The various export associations in Germany have combined for establishing a Central Export Association in the city of Hamburg. They expect from this combination of forces under a single management much greater impetus and more beneficial results to the German export trade.

At a meeting recently held at the hall of the Chamber of Commerce in Frankfort for the purpose of organizing a German-French Economic Association about 80 prominent German manufacturing and commercial firms were represented by their delegates. The object of this association is to promote trade between Germany and France. A similar association has recently been formed in Paris. It might be well if associations of this sort were organized in the United States with the object of getting in closer touch with trade circles in Europe and other countries in order to promote the export trade of the United States.

The Association of Merchants of Berlin, after a carefully prepared plan, in March sent out a commission of ninety persons, which represent the principal commercial and manufacturing firms of Berlin. The objective point of the commission is the Levant, and the members will study business conditions and possible trade opportunities

in the countries of that vast region. On the way East the commission made stops at Vienna, Budapest, and Sofia, where they held communication with the commercial bodies of said cities. From there they proceeded to Constantinople, from which point their Levantine investigating tour begins.

FOREIGN TRADE GAINS.

INCREASE IN BOTH IMPORTS AND EXPORTS THIS YEAR.

A report from Consul William Bardel, at Bamberg, states that the statistical report on Germany's foreign trade for the first two months of this year shows an increasing development in import as well as in export, as compared with the same two months of last year. The consul summarizes:

Of the 19 numbers regulating the German tariff 11 numbers show an increase in the import, particularly in raw material, in the mineral and fossil branches, in mineral oils, chemical and pharmaceutical products, colors, base metal and merchandise made thereof (copper). Ore shows the heaviest import of all.

The principal increase in the export is shown in the lines of mineral and fossil raw materials, in products of agriculture and forestry, in base metals and merchandise made thereof (iron and iron goods). The tables for January and February, as published, follow:

Description.	Imports.		Exports.	
	1907.	1908.	1907.	1908.
Products of agriculture and natural produce; food products	<i>Tons.</i> 3,085,660	<i>Tons.</i> 3,082,960	<i>Tons.</i> 540,749	<i>Tons.</i> 605,441
Mineral and fossil raw materials; mineral oils.....	4,322,869	4,641,653	4,921,798	5,050,267
Chemical and pharmaceutical products; colors.....	186,434	203,450	307,604	325,146
Base metals and merchandise made thereof.....	123,333	133,625	555,108	590,385
Other merchandise taxed by weight	144,903	145,356	289,486	313,707
Total.....	7,863,199	8,207,044	6,614,745	6,884,946

FRANCE.

REVIEW OF THE COLONIAL TRADE.

SHARE OF FRANCE AND FOREIGN COUNTRIES THEREIN.

Consular Clerk Milton B. Kirk, of Paris, furnishes the following statistics, from an official report just published, showing the foreign trade of all French colonies and protectorates for 1906, with the exception of Algeria and Tunis:

The following statement shows the value of the imports and exports of the colonies and protectorates, and the percentages of France, French colonies, and foreign countries therein in 1906: Imports, \$87,804,442, of which France supplied 44.2 per cent, French colonies, 3.3 per cent, and foreign countries, 52.5 per cent; exports, \$81,123,363, of which France received 42.6 per cent, French colonies, 2.1 per cent, and foreign countries, 55.3 per cent. The imports were \$6,587,900 less than those of 1905, but the exports were \$6,845,873 in excess of those of 1905.

The following statement shows the imports and exports of the colonies from and to the several countries, together with the re-

exports of France and foreign merchandise to those countries in 1906:

Countries.	Imports from.	Exports to.	Reexports of French products.	Reexports of foreign products.
France:				
French merchandise.....	\$38,867,542	\$63,165,288	\$247,611	\$2,187,450
Foreign merchandise.....	1,578,088			
French colonies:				
Colonial merchandise.....	2,791,800	1,441,088	138,080	74,627
Foreign merchandise.....	42,818			
Foreign countries:				
United States.....	2,932,633		319	12,563
United Kingdom.....	7,223,892		481	16,021
British colonies.....	18,742,208		59,361	2,990,916
Germany.....	2,058,153		4,021	276
Netherlands.....	569,344			
Dutch colonies.....	593,185		64	95
Belgium.....	312,680			
China.....	4,890,433			2,265,337
Japan.....	186,630			
Siam.....	1,290,346			202,650
Philippines.....	2,000			
Abyssinia.....			317,963	1,329,761
All other countries.....	5,788,161	14,080,770	Not stated.	Not stated.
Total.....	87,804,442	81,123,868		

Taken as a whole, the French colonies and protectorates have shown great commercial improvement during the last eleven years, an increase of \$77,464,578 on the total commerce over the year 1895, viz: \$41,206,834 in the imports and \$36,257,744 in the exports.

COLONIAL INDUSTRIAL PROGRESS.

PRINCIPAL PORTION OF THE COMMERCE IS WITH FRANCE.

Consul John C. Covert, of Lyon, furnishes the following additional information covering the commerce and industries of the French colonies:

The foreign commerce of the French colonies in 1906 was as follows: Imports, \$87,795,700; exports, \$81,117,900. Of the imports 47.5 per cent were received from France, and of the exports 42.6 per cent went to France. As compared with the trade of the colonies ten years ago (1897), the imports increased \$36,465,500, and the exports \$31,092,300.

Over one-half the population of the French colonies is native, and one-fourth other than French, principally Italian, but these soon become naturalized and call themselves French citizens. The colonists are becoming good customers of the mother country, and are heavy purchasers of ready-made clothing, hardware, pottery, glassware, boots and shoes, furniture, chemicals, jewelry, tobacco, cigars, wines and liquors, and other products of France. Everything is done by the French Government to facilitate the exchanges between France and her colonies. The customs duties are all at minimum rates or no more than is necessary to defray the expenses of the customs authorities.

RESOURCES AND DEVELOPMENT.

France receives annually from her colonies large quantities of phosphates, hemp, india rubber, live stock, fresh fish, rice, cork, iron

and copper ore, leather and hides, tanbark, hair for brushes, wax, wheat, corn, rye, tea, and cotton, several varieties of wood, and all kinds of fruits and vegetables. Early vegetables are received in France from the French colonies of Algeria and Tunis in February and March, and as soon as the supply from that source is exhausted a crop is ready in the Midi of France. The supply of cereals from the colonies is constantly increasing, and they are susceptible of almost unlimited expansion.

During the last two decades, France has expended \$40,000,000 on railways in East Africa, and the brigand chiefs who ruled that vast territory now occupy civil and military positions, and are amenable to the authority of officials appointed by the home government.

The lines of railroads operated in West Africa in January, 1908, were: Dakar to St. Louis, 124 miles; Kayes, on the Senegal, to Kulkoro, on the Niger, 345 miles; Guinea Railroad, Konakry to Komy, 226 miles; Ivory Coast Railroad, 70 miles; Dahomey Railroad, Kotonou to Agovagu, 166 miles.

The French are looking to the creation of a market in their colonies which will belong to them. The colonies are fast becoming an outlet for the overflow population of other nations, while they are constantly growing more thoroughly French. The official language of all of them is French. It is taught in the schools, and in Algeria and Tunis there are French universities presided over by some of the most learned educators of France.

The names of the different countries composing this immense colonial empire are as follows: In Asia: French India, Annam, Cambodia, Cochin China, Tonkin, and Laos. In Africa: Algeria, Tunis, Sahara, Senegal, Senegambia, and Niger, French Guinea, Ivory Coast, Dahomey, Kongo, Somali Coast and dependencies, Reunion and Comoro Islands, Mayotte, and Madagascar. In America: Guiana, Gaudeloupe, and dependencies, Martinique, and St. Pierre and Miquelon. In Oceania: New Caledonia and dependencies, and establishments in Oceania.

PIANO MARKET CONDITIONS.

OUTLOOK FOR THE INTRODUCTION OF AMERICAN INSTRUMENTS.

Consul-General Robert P. Skinner, of Marseille, furnishes the following information concerning the piano trade in France and the steps that must be taken for the introduction of American pianos into that country:

The most highly regarded and expensive piano offered for sale in France bears a well-known American name, principally because it has been the concert piano of preference of a number of celebrated artists, but its price prevents it from becoming a popular instrument, in spite of its recognized superiority.

The French piano of commerce must sell at retail at from \$100 to \$200. It is usually an upright piano, with a range of seven octaves, or a grand piano (*piano à queue*), with a range of seven and a quarter octaves. The old-fashioned rectangular piano is no longer manufactured in this country, and is seldom seen. The favorite woods for piano cases are poplar and walnut, which are waxed and polished,

instead of being highly varnished as in the United States. The cheapest woods are painted with a black enamel paint, and resemble the low-priced American standard pianos. Upright pianos sell at wholesale in this country at from \$89 to \$328, and at retail at from \$116 to \$347. Grand pianos sell wholesale at from \$250 to \$733, and retail at from \$290 to \$772. The retail dealer expects to make an average profit of \$20 on upright instruments and \$40 on grand pianos.

OUTLOOK FOR AMERICAN PIANOS.

The possibility of selling American pianos in this country would depend upon the ability of the American manufacturers to overcome the French duty of \$11.58 on upright and \$16.40 on grand pianos. It would also be necessary for American manufacturers to send a competent representative to this market to present their claims with vigor and ability. There are numerous French pianos on sale at low prices, and they are unlikely to be displaced by efforts to sell American pianos by correspondence.

The imports and exports of pianos into and from France during the last three years were as follows:

Description.	1905.	1906.	1907.
Imports:	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>
Upright.....	357	429	508
Grand.....	190	164	229
Total.....	487	593	737
Exports:			
Upright.....	4,497	4,836	4,457
Grand.....	281	316	366
Total.....	4,778	5,152	4,823

Judging from the comparative insignificance of the importations of pianos into France, it seems certain that American pianos would have to be presented with particular ability in order to succeed. [The addresses of the principal French piano manufacturers of Paris and the best known dealers at Marseille, transmitted by the consul-general, are on file in the Bureau of Manufactures.]

UNITED KINGDOM.

LONDON IVORY SALES.

QUARTERLY TRANSACTIONS SHOW LOWER RANGE OF PRICES.

Consul-General Robert J. Wynne, in response to a request, makes the following report on the quarterly sale of ivory in London on April 30:

A total of 85½ tons of ivory was offered for sale, comprising 27 tons Zanzibar, Bombay, Mozambique, and Siam, 7½ tons Abyssinian, 32½ tons Egyptian, 7½ tons West Coast African, one-half ton Lisbon, 10½ tons "land carriage;" in addition there were offered for sale one-fourth ton sea-horse teeth, one-half ton boars' tusks, three-fourths ton rhinoceros horns, and 7½ tons waste ivory.

The feature of the sale was the preponderance of large and medium teeth from Bombay, Zanzibar, Egypt, etc., of which a good portion

were of fine qualities. For these teeth the greatest depression was shown in the heaviest declines. Owing to the unusually heavy quantities catalogued—much in excess of requirements—a depressed tone prevailed throughout the sales.

During the sale considerable quantities were withdrawn. In all 37½ tons were bought at the following prices: Zanzibar, Bombay, Mozambique, and Siam, £40 to £72½ (\$195.66 to \$353) per hundredweight (112 pounds); Abyssinian, £42 to £71 (\$204 to \$346) per hundredweight; Egyptian, £35 to £70½ (\$170 to \$343) per hundredweight; West Coast African, £41 to £64½ (\$200 to \$314) per hundredweight; boars' tusks, 8d. (16 cents) per pound; sea-horse teeth, from 1s. to 1s. 9d. (24 cents to 42 cents) per pound; rhinoceros horns, 5s. 9d. to 15s. 6d. (\$1.40 to \$3.77) per pound.

EXPORTS FROM NOTTINGHAM.

LARGELY DECREASED PURCHASES BY AMERICAN IMPORTERS.

Consul Frank W. Mahin furnishes the following information concerning the exports for the Nottingham consular district (Nottingham, Derby, and Leicester) during the first quarter of 1908, as compared with the first quarter of 1907:

The declared value of the articles of large and regular shipment from Nottingham to the United States was as follows in the first quarters of 1907 and 1908:

Articles.	1907.	1908.	Articles.	1907.	1908.
Lace goods.....	\$2,016,754	\$1,836,802	Salted sheepskins.....	\$27,209	\$14,009
Cotton yarn.....	40,987	84,836	Silk and cotton drillings..	16,361	14,918
Silk.....	48,061	19,493	All other articles.....	94,254	190,569
Hosiery and underwear..	85,846	66,057			
Leather.....	28,828	8,187	Total.....	2,387,600	1,725,222
Machinery (mostly for lace making).....	84,800	40,851			

The small or irregular exports entered under "All other articles," increased in 1908. For instance, linen piece goods to the value of \$63,049 were declared at the Nottingham consulate in the past quarter, none being invoiced in the 1907 quarter.

The declared value of exports from the Derby consular agency during the first quarter of 1908 amounted to only \$337,790, against \$472,549 the first quarter of 1907. The declared value of Burton ale, however, increased from \$94,722 in 1907 to \$111,898 in 1908; but salted sheepskins fell from \$325,122 to \$172,645 during the same quarters. Exports of machinery, sod oil, and steel-rope wire increased in 1908, but all other items declined, the chief of these being paints, which fell from \$30,492 to \$18,676.

The declared exports at the Leicester agency declined from \$85,086 in 1907 to \$69,883 in 1908. The changes were small in the various articles, the largest being in elastic webs, the main item of export, which declined from \$48,552 last year to \$40,099 this year.

GENERAL TRADE CONDITIONS.

Trade has seriously declined with nearly all other countries, as well as with the United States. The situation is made worse by the

fact that last year's universally good trade led manufacturers to enlarge facilities and increase output, with every reason to believe that business would be as active in 1908. At the beginning of this year, though trade was at a low ebb, manufacturers generally believed the depression would gradually pass away and entirely disappear in two or three months. Every week and day they have looked for a change, but at the end of three months none has come and none is in sight. Few manufacturers are now optimistic, and some are hopeless of any early revival of business.

Lace machines generally are idle or only partly working. In some factories hands are put on short time; in others, discharged. If any machines are working full time and capacity it is to fill orders received many months ago.

Conditions in the hosiery trade are similar, but not so bad as in lace. There was not in hosiery last year the unusual activity manifest in the lace trade, and the present contrast is therefore less marked. The total value of hosiery exports this year, despite the decrease to the United States, is so far about equal to 1907. Some hosiery machinery is idle, but altogether no unusual feeling of disappointment or discouragement is evident in the hosiery trade. The uncertain and declining prices of wool and cotton are disturbing; but beyond rendering manufacturers cautious in yielding to the pressing offers from the spinners, who naturally wish to sell now, and inducing a limit of output to the lowest possible quantity while prices are falling, no material effect on the trade is apparent.

Prices of mosquito nets, which materially advanced last year, have decreased 15 per cent since January 1, 1908. Other lace products have not yet distinctly declined in price, but the general tendency is that way. Export trade in all other products is more or less depressed. Local trade, wholesale and retail, in all branches, is behind the corresponding period of last year. All industries expect substantial improvement when business in the United States is fully restored to its normal condition, but not till then.

BIRMINGHAM'S REDUCED TRADE.

DECLARED SHIPMENTS TO UNITED STATES GREATLY DECLINE.

Consul Albert Halstead in the following report shows the extent of the decreased exportation of British manufactures from Birmingham to the United States:

The value of the exports from the Birmingham district to the United States for the first three months of the present year was \$610,995, a reduction of \$167,700 from the similar quarter of the previous year, or a little over 21½ per cent. The value of the exports from the Birmingham consulate alone was \$528,491, a reduction of \$111,533 compared to the similar quarter of 1907, or a little over 21 per cent. The invoices in the same period fell off by about 15½ per cent.

The conditions that existed in the United States in the first quarter of the present year will, of course, account for the heavy reduction in the value of exports from this district, a reduction that from accounts that have reached me is lower, if anything, than that which has taken place in many other consular districts.

BELGIUM.**IMPORTS AND EXPORTS OF BICYCLES INTO THE KINGDOM FOR PAST YEAR.**

Consul W. P. Atwell sends from Ghent the following statistics showing the foreign trade of Belgium in bicycles:

The total value of importations of bicycles into Belgium during the year 1907 increased by more than \$44,000 over the year 1905, and \$32,800 when compared with 1906. The increase for bicycle parts amounted to \$172,600, when compared with 1905 and \$234,000 over 1906.

The exportation of bicycles, on the other hand, remained approximately unchanged, while that for bicycle parts shows a decrease of \$123,400 over 1905 and \$96,200 when compared with the year 1906.

The greater part of importations into Belgium were furnished by Germany, the total value being \$333,000, followed by England with \$126,000, France with \$80,000, Holland with \$18,000, and the United States with only \$16,000. The difference thus shown between Germany and other exporting countries is therefore enormous.

ITALY.**BRAZILIAN TRADE DEVELOPMENT.****COMMISSION FOR THE STUDY OF COMMERCIAL INTERCHANGE.**

Consul James E. Dunning, of Milan, furnishes the following information concerning the organization in the Italian Ministry of Agriculture of a commission to study the development of better trade relations with Brazil:

This commission will study not only the development of exports and imports between both countries, but the whole question of emigration. It is said that Italy feels that colonization in Brazil might have the same effect as that produced by Italian settlers and their children in Argentina, which has 1,600,000 Italians in its population, and which has, through these, become one of the best foreign markets for Italian goods.

In relation to Italian emigration to Brazil, it appears that the records show a steady movement of Italians from that part of the Republic dominated by the port of Santos. For instance, in 1902 the arrivals at that port numbered 28,895 and the departures 21,687, while in 1907 the arrivals numbered only 13,376 against 22,293 departures.

The trade of Italy with Brazil, while in no way approaching that with Argentina, is fairly good. Imports from Brazil, of raw materials chiefly, are somewhat less than the exports thereto. In 1907 the imports into Italy from Brazil amounted to 17,552 tons, of 2,240 pounds each, of which coffee constituted 16,075 tons, the remaining products, in the order of their weight, being hides, cocoa, pepper, rubber, sugar, and ebony. The exports from Italy to Brazil in 1907 amounted to 23,797 tons, against 19,256 tons in 1905. The leading exports in 1907 were as follows, in tons of 2,240 pounds: Wine, 12,097; marble, 5,373; olive oil, 1,450; paper, 890; sulphur,

816; preserved tomatoes and fruit, 731; calcium carbide, 682; vermouth, 447; cheese, 420; spirits, 342; cotton textiles, 329; manna, medicines, cotton yarn, silk goods, books, rubber goods, fancy goods, etc.

A factor in the future trade connections between Italy and Brazil, already manifested in the creation of the large volume of commerce with Argentina, will be the influence of the Italian steamship companies, which are successfully maintaining a rapid and convenient service of subsidized steamers between Genoa and South American ports, and which are now preparing to enlarge it by the addition of a group of first-rate liners.

DEMAND FOR SCIENTIFIC INSTRUMENTS.

FIELD FOR AMERICAN STOCK—METHODS FOR EFFECTING SALES.

Consul Dunning also forwards the following report, made by Clerk Siersdorfer of the consulate, on the opportunity for the American manufacturer to increase the exports of scientific instruments to Italy:

A certain quantity of scientific instruments is manufactured in Italy. Those manufactured here are considered to be some of the best in the world of their kind, although there are some special kinds of instruments that Italian manufacturers are unable to conveniently turn out. This special stock is at present imported from Germany, France, Austria, and England in steadily increasing quantities. Some stock is imported from the United States. The following table shows Italian imports of scientific instruments in the past two years, in tons:

Countries.	1906.	1907.	Countries.	1906.	1907.
	<i>Tons.</i>	<i>Tons.</i>		<i>Tons.</i>	<i>Tons.</i>
United States.....	226	277	Switzerland.....	98	97
Germany.....	873	1,408	Belgium.....	47	43
France.....	216	257	Other countries.....	87	23
Austria.....	67	41			
England.....	163	205	Total.....	1,227	2,351

Imports have thus greatly advanced, and a steady increase in the future is also predicted. There seems to be a specially promising field for American stock of this kind. Large quantities of dentists' outfits could undoubtedly find ready sale on the Italian market, together with motors for running the dentists' machines.

It is not to be inferred that American scientific instruments are not already sold in Italy, but there is room for a great deal more American stock. The best way for the manufacturer to reach the special demand is to get in touch with representatives on the field whose names and addresses were given in the list of general representatives in Italy recently filed with the Bureau of Manufactures. An agent should be appointed and then sent catalogues, price lists, etc., from which he will be able to determine the articles that would sell in the Italian market.

Optical, calculation, precision, observation, chemical, philosophical, and surgical instruments pay the following duties on entering Italy:

(1) Manufactured of copper, bronze, brass, or steel, fitted with telescopes, microscopes, graduated rods or disks, terrestrial telescopes, monocular microscopes, binocles, and mounted and unmounted lenses pay \$5.79 per 220 pounds;

(2) without optical parts or graduating rods or disks pay \$5.79 per 220 pounds; (3) all scientific instruments in the construction of which iron predominates pay \$5.79 per 220 pounds.

REDUCED AMERICAN SALES.

DECREASED EXPORTS FROM MILAN TO THE UNITED STATES.

Consul Dunning furthermore reports that the volume of the exports invoiced through his office to the United States for the first quarter of 1908 shows a decrease of \$2,237,226 as compared with the exports for the same period in 1907. This decrease occurred nearly altogether in raw silk, the exports of which in the 1908 quarter amounted to only \$2,381,466, against \$4,460,340 during the 1907 quarter. The other exports showing decreases were cotton waste, cotton goods, gloves, conserves, silk spun waste, etc.

SWITZERLAND.

IMPORTS OF OFFICE APPLIANCES COME MAINLY FROM UNITED STATES.

In stating that most of the mechanical office appliances used in Switzerland are imported from the United States, Consul R. E. Mansfield, of Lucerne, reviews the trade as follows:

The only article of this class in general use is typewriting machines. These have been used for twelve or fifteen years, but it is only in the past few years that they have been recognized as a necessary article in the equipment of every office where the business involves any considerable correspondence or documentary writing. The demand is almost universally for machines of American manufacture, and most of the standard and many of the cheaper grades of American machines are now represented by agents in Switzerland.

American adding and counting machines have been introduced in Switzerland in the past few years. They have not yet come into general use, but a number of concerns have added these devices to their equipment with satisfactory and gratifying results. It is only a question of time when they will be considered, like typewriters, a necessary adjunct to every well-equipped office.

EUROPEAN IMITATIONS—IMPORT DUTIES.

The roll-top desk is another article of American manufacture that is quite generally used in Switzerland. Erasers, paper fasteners, mucilage cups, and other office supplies are also imported from America. The better class of letter files, card-filing systems, and like office appliances used in Switzerland come from the United States. There are numerous German imitations in this class of office appliances, but as a rule they are inferior to the American-made articles. Prices of almost every kind of office appliances are higher in Switzerland than in the United States, the cost of transportation and customs duties being added to the original cost of the imported articles.

In addition to office appliances, American cash registers are also in general use in Switzerland, and the demand for this article of utility is increasing. American-made sewing machines are imported to considerable extent, and are sold in the Swiss market at a comparatively low price. Swiss and German imitations of American sewing machines are on sale in practically all of the shops and agencies where

household articles of this class are sold. The European product, which is a good imitation of the American machine, is sold at a lower price than the imported article.

All kinds of mechanical appliances for offices, including desks and office furniture, imported into Switzerland pay a duty of \$3.86 per 100 kilos (220 pounds). Cash registers pay a like duty. The tariff on sewing machines is \$1.55 per 100 kilos (220 pounds) gross weight.

GREECE.

DECREASED PRODUCTION OF OLIVE OIL—EXPORTS OF CURRANT PASTE.

Consul-General George Horton, of Athens, supplies the following commercial information concerning Greece:

According to one of the most reliable commercial authorities in Greece, the production of olive oil for 1907 has been below the average in quantity and quality. The entire production amounts to 57,923,000 liters, which on a valuation of 1 franc per liter (19.3 cents per 1.0567 quarts) represents a total value of 57,923,000 francs. If to this is added the value of the edible olives, between 4,000,000 and 5,000,000 francs, the total value of the Greek olive crop for 1907 is about 63,000,000 francs.

The minister of finance announces that the exportation of currant paste for 1906 and 1907 amounted to 66,286,940 Venetian liters. Of this the greater quantity was exported to the United States, followed by Germany and Italy, in which latter country it is used in the distilleries.

NORWAY.

FOREIGN PURCHASES OF GRAIN, FLOUR, AND MEAL.

Consul-General Henry Bordewich, of Christiania, in reporting that Norway has always imported large quantities of breadstuffs for home consumption, furnishes the following statistics:

In 1907 the imports were 351,414 tons of ground and 86,237 tons of unground cereals. The imports in 1908 will show a large increase, owing to failure of the 1907 crops. The principal imports are rye and barley. Russia has always been the granary from which these supplies have come; there was imported in the year 1906, 340,000 tons of these varieties of grain, of which 271,500 came from Russia. Of rye meal there was imported 20,479 tons in the year 1906, of which 6,006 tons came from Russia and 12,838 tons from Germany. Of barley meal the imports were 618 tons, of which Germany furnished 400.

The imports of wheat were 20,844 tons in 1906, of which Russia supplied 12,669. The imports of flour are increasing, the amount in 1906 having been 42,051 tons, of which Germany supplied 14,229, Great Britain 11,650, and the United States 4,679 tons.

Large portions of the breadstuffs which are set down as imports from Germany are goods of Russian, Roumanian, and Hungarian origin. The imports of flour placed to the credit of Germany, Great Britain, and other European countries are largely of American origin. Russia has been, and will without doubt continue to be, the country which will supply Norway with the larger portion of its breadstuffs. Argentina may in the future become a rival of the

United States in the markets for the sale of wheat, flour, and feed stuffs, as well as of packing-house products. Other countries exporting breadstuffs to Norway are Sweden, Denmark, the Netherlands, Belgium, and Brazil.

The cereal imports from the United States other than flour in the year 1906 were, in tons: Barley 271, corn 7,264, and oat groats 527. The value of the direct imports of flour from the United States in 1904 was \$97,793, in 1905 \$61,425, and in 1906 \$209,487. The direct annual imports from America are somewhat on the increase, the trade being well handled.

ROUMANIA.

GOVERNMENT ORGANIZES NEW DEPARTMENT FOR TRADE AND INDUSTRY.

Consul-General Norman Hutchinson transmits from Bucharest the following text of a law creating a new Ministry of Industry and Commerce in Roumania:

Art. 1. There is created a Ministry of Industry and Commerce.

Art. 2. The service of industry, of patents of inventions and of their keeping, the protection of the working of women and minors in industrial establishments, the service of commerce with the application of the law of trades and the school of silk cultivation, the service of weights and measures, as well as the service of mines with the mineral waters and the geological institution, all of which services actually come under the Ministry of Agriculture, Industry, Commerce, and Domain, from April 1, old style [April 14, new style], shall pass to the service of the new Ministry of Industry and Commerce.

Art. 3. Until the passage of a law for the organization of the new Ministry of Industry and Commerce, the services which pass under this ministry shall continue to be carried out under their special laws.

Art. 4. The Ministry of Agriculture and Industry, of Commerce and of Domain, will have the name of Ministry of Agriculture and Domain.

BRITISH INDIA.

FOREIGN TRADE REVIEW.

STATISTICS OF IMPORTS AND EXPORTS FOR ELEVEN MONTHS.

Consul-General William H. Michael, of Calcutta, reports that the value of sea-borne merchandise imports into India and exports therefrom during eleven months ending February 29, 1908, was as follows:

Imports:		Exports:	
Private merchandise---	\$393, 010, 788	Private foreign merchandise reexported-----	\$11, 494, 252
Government stores-----	19, 897, 790	Indian merchandise -----	525, 510, 420
		Government stores-----	393, 634
Total-----	412, 908, 578	Total-----	537, 398, 306

This does not include imports and exports of private and government treasure. The total imports of treasure was \$130,998,712 and the total exports of treasure amounted to \$16,726,913.

The amount of import duty collected during the eleven months, including the tax on salt, was \$22,266,338 and the amount of export duty collected was \$2,721,502.

These figures are derived from the monthly official report of the government relating to the sea-borne trade and navigation of British India.

CALCUTTA'S DECREASED EXPORTS TO THE UNITED STATES.

The decrease in exports from Calcutta to the United States in 1907, compared with 1906, amounted to \$3,049,640, which was due to the

American financial condition. Had the exports of the first quarter of 1907 kept up there would have been a large increase during that year instead of the large decrease reported. According to brokers and exporters, however, business with the United States is improving, and indications are that normal conditions will be reestablished during the present year. The exporters of skins felt the effects of the financial troubles in the United States more than any other class, for the reason that nearly all skins shipped from India went to the United States.

KARACHI'S PROGRESS.

STEADY ADVANCE IN COMMERCE OF THE NORTHERN INDIA PORT.

According to the recent report of the Karachi Chamber of Commerce for 1907, Consul-General Michael says that there has been an increase in the business of that growing port in the last twelve months despite drouth and the financial conditions affecting the trade of India. The consul-general presents the following summary:

The total value of the sea-borne trade for 1907 amounted to \$126,978,085, an increase of nearly \$26,666,666 over the figures for 1906. The exports of wheat during the year from Karachi amounted to 977,614 tons, against 5,290 tons shipped from Calcutta and 27,078 tons from Bombay. Thus Karachi shipped 945,246 tons more than the two large shipping points combined, and more than all other Indian shipping ports put together. The exports of cotton from Karachi show an increase in value of \$4,959,576. This large increase of cotton was due to the very large crops in Sind and in some of the Punjab districts. The report says that there was very little injury done to the indigenous cotton crops by the boll worm, but that the Egyptian plant again suffered severely, the quantity and quality both being reduced. The loss from this cause, however, was more than made by higher prices received. The shortage of Egyptian and American high-grade cotton helped to raise the prices on Indian cotton.

The exports of rape seed increased in value over \$2,366,666. This large increase was made possible by the large production in the Punjab and the failure of the rape-seed crop in Europe. The value of the shipments of wool amounted to \$4,836,604, which exceeds any previous figure, and was an increase over 1906 of \$512,646. In hide and skin commodities there was a big falling off, amounting in value to \$1,657,465, which was due to the short supplies in the country, connected with the slack demand in Europe and America, especially in the latter country, where there were large stocks on hand.

INCREASE IN IMPORTS—GRAIN-HANDLING MACHINERY.

The report says there has been a decided advance in imports over those of 1906, amounting to \$3,450,000. The total value of exports was \$53,577,689, which is in excess of any year in the history of Karachi. The imports of piece goods increased about \$1,150,000 over 1906. Imports of sugar decreased about \$2,074,061, due, it is claimed, to overstocking the year previous in which imports increased in value

by \$3,781,336. The increase in the imports of kerosene oil amounted to about \$283,333. The imports of coal nearly doubled as regards foreign coal, viz, 21,231 tons compared with 11,020 tons in 1906. The imports of Indian coal, mainly from Calcutta, amounted to 384,419 tons, against 352,067 tons last year.

The report shows that Karachi is destined to become one of the most important shipping points in India, especially in wheat. Attention is called to the fact that steps are being taken to establish large grain elevators in Karachi, and elevators at many points on the lines of railroads running through the great wheat-producing country of northwest India. I suggested to the builders of elevators and the manufacturers of elevator machinery in the United States more than a year ago that the time was not far off when this would be done, but so far as I know the suggestion was not acted upon. My report on the subject was quoted in papers throughout India, and, I have no doubt, had its effect on those who are promoting the elevator scheme then suggested. It may not be too late for an active agent to accomplish results at Karachi and in the wheat country. The introduction of American elevators would be followed by American fanning mills, and possibly thrashing machines.

The rise in the cost of harvesting wheat and other grains in the Punjab has suggested the need of a cheap harvester in that province. The farms in the Punjab canal colonies have done so well that they are declaring that a cheap, handy, and simple manual delivery reaper is required. They have brought the matter to the attention of the agricultural department. The official opinion seems to be that there is little doubt that the more progressive farmers of these colonies will readily adopt this sort of reaper and lead the way to its general use in the wheat-growing districts of Northern India.

SALES OF AMERICAN GOODS.

SUCCESSFUL EFFORTS OF PERSONAL REPRESENTATIVES ON THE SPOT.

The following information concerning recent sales of American manufactures in India is also furnished by Consul-General Michael:

According to trustworthy information there are a good many American windmills of the cheaper class in use on the Malabar coast of India, 200 miles south of Bombay. There are probably several hundred of these engines in use along the west coast and more are being installed. An agent of an Illinois manufacturer sold a carload lot last January of a better class of windmills to a Bombay firm, which will probably be erected along the west coast, where there is a very constant breeze the year round. The carload lot contained 40 mills, and will be shipped direct from New York. It would appear that there is really a good field for the American windmill on the Malabar coast, the demand for which is being met by two Bombay firms.

The attention of manufacturers is called to the fact that the introduction of American windmills and the other products noted into India is due to the intelligent effort of competent agents "on the spot" and not to the effect of catalogues. After one windmill or any other piece of machinery is actually introduced and in successful operation, catalogues and trade literature are all well enough, in fact

desirable, but machinery of any sort can not be introduced in a country like India without personal endeavor. An active, capable agent on the spot at the right time is needed.

INKS AND MUCILAGE—PACKING GOODS FOR INDIA.

Within the last year an American commercial traveler, who devotes his whole time to India and near-by territory, has succeeded in placing on the Indian market considerable quantities of American manufactured inks, blue, black, purple, and red, and a line of American-made mucilage. The articles are making their way on their own merits. The inks and mucilage are put up in attractive bottles, well packed, and reach the trade promptly and in satisfactory condition. American inks flow freely, do not corrode the pen, are good until the last drop is used, and they are also more durable than certain other inks used in India. In consequence there is a growing demand for the American goods. The introduction of these goods never would have happened but for personal effort of an American agent of push and ability.

To show what may be done in India by a capable traveling salesman, who has been in the country long enough to know it, and to be familiar with the vernacular, one such traveler sold last year \$40,000 worth of a tonic manufactured in the United States, and the same amount during the previous year.

An American salesman, after citing many cases of looting, states that the thieving on vessels and at ports from the time goods leave the United States until they reach the business houses of India has become unbearable, and when asked for a suggested remedy replied that it might be found in proper packing. All packages for India should be ironbound, which would make it so difficult and dangerous to meddle with that the average ship and warehouse thieves would give up their vocation. Besides the seal would fix responsibility, and the responsible hands through which the box or package might pass would be more particular to whom access to the room in which packages are stored is given. It is thought that American shippers need only have their attention called to this matter to insure the proper packing.

STRAITS SETTLEMENTS.

ANXIETY CAUSED BY DEPRESSED BUSINESS CONDITIONS IN PENANG.

Vice and Deputy Consul-General George E. Chamberlin, of Singapore, in reviewing the conditions which prevailed in Penang during the past year, writes that, according to the annual report of the chamber of commerce, 1906 was the most anxious year ever experienced by the merchants at that port. He says:

The year 1907 opened with all the merchants carrying large stocks of imports with very small demand and very little hope of early clearances; money was not plentiful, and the stagnant state of the market in many of the staple articles of export gave little promise of any improvement. Prices of Acheen pepper, which were already exceptionally low, experienced a further drop; the demand from Europe practically ceased and, in consequence, those who were holding stocks were forced to hold on and wait for an improvement which

did not come. Tapioca was in much the same state; and then came the monetary crisis in the United States, with a resultant decrease in the demand for tin, a drop in tin prices, the "bullish" transactions of certain Penang merchants, whose losses amounted to about \$1,000,000. The withdrawal of such a large sum of money from the amount available for the ordinary trade of the port, when money was already scarce, could have nothing but a disastrous effect on business. In addition, a further depressing effect was caused by some merchants trading with China over their contracts.

The one bright spot in all the darkness was the fact that, in spite of all these heavy losses, the merchants were able to meet their losses without any serious failure. The outlook for the current year is brighter, owing to the marked recovery in the price of tin, which is by far the most important article of export from this port.

JAPAN.

FOREIGN TRADE REVIEW.

DECREASE IN EXPORTS AND INCREASE IN IMPORTS.

Consul Hunter Sharp, of Kobe, transmits an article from a local newspaper giving details of the foreign trade of Japan for the first two months of 1906, 1907, and 1908, from which the following statement has been compiled, the yen values being reduced to American values in the Bureau of Manufactures:

The total foreign trade of the Empire for the first two months of the years given was as follows:

Year.	Exports.	Imports.	Total trade.
1906.....	\$25,730,115	\$33,151,428	\$58,881,547
1907.....	30,808,553	39,166,163	70,064,716
1908.....	25,148,787	47,621,026	72,769,763

Less silk and tea, less copper, less Portland cement and timber, less sugar and confectioneries, less tobacco, less cotton yarns and cordage, less metals, less manufactured metals, and less machinery have been sent out; but there is not much change to note in the other groups of exports. Grains and seeds, ores and minerals, paper and paper manufactures, show a slight increase; marine products have been maintained at about last year's level and in advance of that of 1906; drugs and medicines, beverages and comestibles, and alcoholic liquors have increased; shipments of skins, hair, horns, etc., have increased as compared with 1907, though they are somewhat below the shipments in 1906. The most notable decreases in exports were in raw silk, cotton yarns and cordage, and metals, principally copper, viz:

Articles.	1906.	1907.	1908.
Raw silk.....	\$7,573,377	\$7,829,493	\$6,105,308
Cotton yarns and cordage.....	10,453,264	11,573,077	8,460,731
Metals.....	1,292,016	2,806,982	1,251,308

Doubtless the falling off in the demand for tobacco, sugar, and confectionery is due to the increased duties.

IMPORTS.

Turning to imports, we find what is undoubtedly the greatest increase in sugar, a feature which is essentially exceptional, as the bulk was brought in hurriedly and without regard to the immediate requirements of the market,

in order to evade the higher duties recently enforced. The imports of sugar and other leading articles during the first two months of the three years were as follows:

Articles.	1906.	1907.	1908.
Sugar.....	\$1,028,554	\$1,357,770	\$4,650,194
Machinery.....	1,469,184	1,509,059	3,423,565
Oils, fats, etc.....	1,476,247	1,291,438	2,087,738
Dyes, pigments, and paints.....	664,850	538,956	1,158,225
Miscellaneous goods.....	3,134,642	2,027,562	4,167,854
Cotton yarns, thread, cordage, etc.....	12,141,600	15,172,543	14,640,453
Cotton tissues.....	1,451,512	967,365	1,345,350
Woolen tissues.....	1,481,465	1,017,676	522,525

Scientific instruments appear to be in increased demand. During January and February, 1908, the importation of these instruments represented a value of something over \$375,000, as compared with less than \$250,000 in the corresponding period of last year and rather more than \$250,000 during the first two months of 1906. Earthenware goods, grains, and seeds, alcoholic beverages, skins, drugs, and silk tissues also show an increase. Clothing and accessories, and paper and paper manufactures remain about stationary.

PORT OF YOKKAICHI.

GROWING IMPORTANCE OF SHIPMENTS TO THE UNITED STATES.

The following information concerning a subport of the Kobe district is furnished by Vice-Consul Walter Gassett, of the latter Japanese city:

Yokkaichi is situated at the head of the Bay of Ise, about 140 miles northeast from Kobe and 20 miles from the city of Nagoya. It has a considerable trade, the total imports and exports for 1907 amounting to \$6,716,542, of which \$1,802,427 were exports.

In Nagoya is situated the Mie Cotton Mill, with a paid-up capital of about \$2,000,000, and among the imports of Yokkaichi last year was raw cotton, ginned, \$1,295,970, and among the exports grey shirting and sheeting, \$889,810, and cotton yarn, \$189,169.

The surrounding districts of Mie, Aichi, Shiga, and Gifu produce considerable tea, the exports of which amounted to \$147,605 in 1907. These tea exports have heretofore been shipped to Yokohama and Kobe by local steamers, to be refired and then reshipped. Tea traders in Yokkaichi are taking steps for the formation of tea-firing factories with a view to further developing the shipments of tea from that port.

Last January one of the Dodwell line of steamers tried the experiment of calling at Yokkaichi to ship direct from thence to the United States, and on account of the small amount of freight now offering at Kobe their example is to be followed by the Pacific Mail, Canadian Pacific, and Nippon Yusen Kaisha steamers for Seattle, which lines will send steamers there from time to time. Notwithstanding the number of steamers calling at this port, there is to be no competition in rates, as an agreement has been made between the companies concerned to charge uniform rates for freight and passage.

MAY DIVERT SHIPMENTS FROM KOBE.

Some apprehension seems to be felt that the progress of Yokkaichi may seriously affect the trade of Kobe with the United States. Goods shipped from Kobe to the United States are in large part manu-

factured in and about Nagoya and consist of porcelain, lacquer ware, fans, toys, and Japanese umbrellas. By the opening of the services from Yokkaichi shippers of goods made in and about Nagoya will be able to save two days in shipment, and also the freight to Kobe and lighter charges. It may be pointed out, however, that lighter charges will have to be paid whether goods are shipped at Kobe or Yokkaichi.

The port Yokkaichi is situated 29 miles from Irako Strait, and faces the southeast. There is no protection whatever against wind. The water is very shallow; in fact, it is becoming shallower every year, and even now vessels drawing 25 feet of water must lie at a distance of from a mile and a half to two miles from the shore. Evidently there is not likely to be much saving in lighterage charges under these conditions. During winter cargo lading can be carried on without much difficulty, but the port is subject to treacherous swells in the summer, especially during June, July, August, and September, when south or southeast winds are prevalent. Unfortunately these months form the season for the shipment of tea and also of toys and curios for the American Christmas trade. As a rule no cargo work can be carried on at Yokkaichi in the afternoon and nights of days when these winds prevail, the only available time being a few hours in the morning. Moreover, the port is also disturbed with a swell when the west wind blows. With all these inconveniences to be taken into consideration, the saving in freight to Kobe is likely to be more than made up by delays at Yokkaichi.

CHINA.

TRADE ROUTES TO TSINGTAU.

HOW GOODS ARE RECEIVED AND SHIPPED TO THE INTERIOR.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information relative to the trade routes to and from that Chinese port:

The port of Tsingtau is situated in the German Colony of Kiaochow, 298 miles north of Shanghai; 7,000 miles from San Francisco; 13,984 miles from New York, via Suez and Liverpool; and 1,738 miles from Manila. The harbor entrance is 300 meters (1 meter=1.09 yards) wide and 10½ meters deep, with a total length of pier construction of 3,000 meters. Harbor accommodation can be found for thirty ships, and there is also good anchoring ground in the roadstead.

The railway line running into the interior of Shantung Province connects directly with the wharves, and transshipments can be made from ship to car direct.

The principal exports are straw braid, bean and peanut oil, bean-cake (fertilizer), felt caps, goatskins, and fresh vegetables and fruits. The principal imports are cotton and woolen goods, cotton yarn, kerosene, old iron, brass buttons, aniline dyes, window glass, matches, needles, sugar, and opium.

Regular steamers of the Hamburg-American Line ply between Shanghai and Tsingtau twice weekly, and in addition the through steamers of this line running between Shanghai and Tientsin stop at Tsingtau in each direction every five days. This line has also a regular service between Tsingtau and Japan, and between Tsingtau and Vladivostok. The Indo-China Steam Navigation Company has a

regular line of steamers between Shanghai and Tsingtau, Tsingtau and Chefoo, Tsingtau and Kobe, Tsingtau and New York via Suez, and Tsingtau and London and Antwerp.

COMMUNICATION WITH THE INTERIOR.

Communication with the interior is kept up by the Shantung Railway, which runs for a distance of 256 miles to Tsinanfu, the capital of the province, and passes through the trade marts of Weihsien and Chowtsun. Communication with other parts of the province (Shantung) are kept up from Tsingtau, and from the stations of the railway by burden-carrying coolies, wheelbarrows, pack mules and donkeys, Peking carts, mule litters, and occasionally by camel trains.

Tsingtau is supplied almost entirely through the port of Shanghai, but is gradually becoming the emporium for goods destined for the interior of Shantung. Most of these importations for the hinterland are purchased by the interior importers directly from the Shanghai merchants, and are merely transshipped at Tsingtau from steamer to railway, passing through the customs at this port and appearing as Tsingtau imports, when they are really only landed on the wharves and never enter the town. The direct shipments to Tsingtau are small and confined principally to imports from Germany, though large quantities of kerosene are brought here in tank ships, stored in the local tanks and forwarded to the interior in tank cars. Large quantities of bulk oil are supplemented by oil in cases.

PACKING INFORMATION.

Goods intended for Tsingtau usually come in cases booked through to this port, but goods intended for the interior are more often sorted and repacked in Shanghai. Cases intended for this port should be strong, so as to withstand the following transfers: From train to wharf and wharf to ship at San Francisco or New York; from ship to lighter at Woosung (the anchorage for large ships near Shanghai); from lighter to wharf and from wharf to warehouse at Shanghai; from warehouse to wharf on leaving Shanghai; from wharf to Tsingtau steamer (occasionally another lighter being necessary); from steamer to wharf at Tsingtau and from the wharf at this city to the warehouse by coolies, by wheelbarrow, or by cart.

Packages are liable to be left standing in the open at Shanghai and other places in transit and should be able to withstand dampness and rain. Packages of goods from Europe are almost always in tin-lined cases, securely soldered, and while this method of packing is somewhat more expensive, it has proved to be more satisfactory, and importers are willing to pay the extra amount necessary.

Packages intended for the interior should, if in unbroken condition, be of a size convenient for transportation by coolies, mule, or other conveyance. Packages contained in outside cases, where it is intended that the case shall be opened and the packages forwarded separately, should have each parcel securely wrapped in tissue paper, again in oiled paper, and finally in oiled cloth, securely tied together with tape, so that the goods will be easily accessible for examination, can be rewrapped quickly for transportation, and will not become wet on exposure to rain or dampness. Such packages must often be transported for hundreds of miles on open wheelbarrows or carts, and while they are sometimes covered with cloth or canvas, they are more often left uncovered.

GINSENG IN NEWCHWANG.

THE TRADE CONTROLLED BY DEALERS IN HONGKONG AND SHANGHAI.

In reply to western ginseng growers, Consul-General Thomas E. Heenan, of Newchwang, furnishes the following information concerning the manner in which the American product reaches that Chinese port:

It is impossible to deal direct with the Newchwang ginseng merchants. This can be attributed to several reasons. Whatever American ginseng root has been imported into this port during the past has gone through a clarifying process at Hongkong before shipment. The local Chinese dealer in purchasing the American root at Shanghai and Hongkong, prefers that method to any other, as the entire transaction is between native firms, who fully understand the particular wants of the different communities, which would not, of course, be the case were foreigners interested in such transactions.

The clarifying at Hongkong is practically controlled by a trust, which regulates the market value of the clarified article, according to the supply and demand. On several occasions attempts were made to do the clarifying at Shanghai, but owing to the fact that the process is more or less secret and under trust control, in neither instance did the project result successfully.

During last year, for some unaccountable reason, no American ginseng appeared in the Newchwang customs import returns, and it is evident that whatever demand occurred was supplied by the root of Manchurian growth. American ginseng root was never used to any great extent by natives in Manchuria; the same can also be said of them in regard to the root of their own growing, which is exported to southern ports, where a large demand continually exists. The amount exported to the South during 1907 from Newchwang was more than \$160,000, and consisted of native and wild, beard and refuse; the export of native growth being more than \$120,000.

MOROCCO.

GOATSKIN EXPORTS DECLINE TO AMERICA, BUT INCREASE TO FRANCE.

Consul-General Hoffman Philip, writing from Tangier under date of March 29, calls attention to a marked falling off in the exportation of goatskins from Morocco to the United States during the past six months. He says:

The demand for this article, which constitutes the most important item of the present trade relations of the United States with Morocco, has shown a decided and healthy increase during two years past. The supply in this country now appears to be sufficiently plentiful to meet a much increased demand, but practically no shipments have been made from Tangier to the United States for three months.

The result of inquiries into the cause of this depression indicates that it is owing to the lack of demand in the United States rather than to the effects of certain present internal conditions. It is stated that the shipments of goatskins to France have largely increased of late, but trustworthy statistical information in corroboration of this fact has not been obtainable.

AUSTRALIA.

COMMERCIAL ADVANCEMENT.

LARGE INCREASE IN THE IMPORTS AND EXPORTS OF THE COMMONWEALTH.

In transmitting the following preliminary figures of the department of trade and customs of Australia for 1907, Consul-General John P. Bray, of Melbourne, reports that they are subject to slight alteration on revision:

The total trade of Australia in 1907 reached the record amount of \$607,249,710. The imports were \$252,465,119; exports, \$354,784,591. Compared with the previous year the imports show an increase of \$34,788,978, and the exports of \$15,405,766.

The increase in imports has been spread over nearly all the leading departments of business. Apparel and dry goods show an increase of \$8,274,437 over 1906. Metal goods have increased considerably, the total under the six headings of galvanized iron, bars, rod, etc., pig iron, etc., tin plates, metal manufactures, and tools of trade, being \$36,088,661, against \$28,615,560, an increase of \$7,473,101. Machinery imports for 1907 were \$15,398,078, against \$11,225,380. Of the exports wool shows the very large increase of \$30,396,456 over 1906, and larger exports of coal, horses, copper, fruits, lead, frozen meats, silver, hides and sheepskins, tallow, and ores have been made, while gold decreased by \$29,052,643, butter by \$1,749,662, and lumber by \$1,044,395.

The following statement shows the imports and exports, by articles, during the year:

Articles.	Value.	Articles.	Value.
IMPORTS.		IMPORTS—continued.	
Agricultural machinery.....	\$1,992,837	Tobacco:	
Ale and beer.....	2,007,865	Manufactured.....	\$810,024
Apparel and textiles.....	61,233,014	Unmanufactured.....	2,074,856
Boots and shoes.....	1,758,817	Cigars.....	539,374
Brush ware.....	810,063	Cigarettes.....	239,012
Clocks and watches.....	1,081,871	Tools of trade.....	2,341,200
Cocoa and chocolate.....	1,441,165	Wine.....	579,682
Confectionery.....	686,254	All other articles.....	59,289,480
Cordage and twine.....	2,955,619	Total imports.....	252,465,119
Drugs and chemicals.....	4,665,499	EXPORTS.	
Earthenware, china, etc.....	1,647,223	Animals, horses.....	1,603,828
Fish, preserved, etc.....	1,975,613	Butter.....	14,066,779
Fruits, dried (currants and raisins).....	413,910	Coal.....	6,336,181
Furniture.....	1,432,887	Copper, ingots and matte.....	16,824,590
Glass and glassware.....	1,976,495	Flour.....	5,308,482
Gold.....	7,128,235	Fruits:	
Grain (rice).....	1,305,230	Apples, green.....	977,100
Hats and caps.....	2,680,887	Raisins, dried.....	334,562
India rubber goods.....	1,992,837	Gold.....	53,030,382
Iron and steel:		Grain, wheat.....	23,367,584
Bar, rod, etc.....	5,211,992	Lead, pig and matte.....	7,552,622
Plate and sheet (galvanized).....	6,587,824	Leather.....	2,597,289
Pig and scrap.....	1,125,805	Lumber.....	3,880,405
Jewelry.....	1,845,649	Meats, frozen:	
Jute goods.....	6,684,950	Beef.....	2,801,799
Leather.....	1,771,283	Mutton and lamb.....	6,703,614
Lumber.....	7,817,010	Rabbits and hares.....	2,300,959
Machinery, not agricultural.....	13,504,341	Preserved.....	736,827
Manures.....	1,893,890	Silver, bar.....	6,288,044
Metal manufactures.....	19,611,157	Skins and hides:	
Oil, kerosene.....	2,430,679	Hides.....	1,020,480
Paints and colors.....	2,167,719	Rabbit and hare.....	2,032,785
Paper:		Sheep.....	8,996,399
Printing.....	2,475,837	All other.....	1,691,877
Other.....	3,002,217	Tallow.....	5,047,509
Spirits:		Tin ingots.....	5,462,502
Brandy.....	720,559	Wine.....	615,340
Gin and schnapps.....	536,196	Wool.....	140,602,096
Whisky.....	2,821,504	Ores, exclusive of gold ores.....	7,321,713
Sugar.....	378,234	All other articles.....	27,283,859
Tea.....	5,612,641	Total exports.....	354,784,591
Tin plates.....	1,210,683		

TRADE OF VICTORIA.

The overseas trade (beyond the Commonwealth) of the State of Victoria, for the year 1907, shows an increase of \$10,927,975 in imports and a decrease of \$4,841,282 in exports, the latter being due entirely to lesser shipments of gold. The following statement shows the overseas trade during the past two years:

Class.	Imports.		Exports.	
	1906.	1907.	1906.	1907.
Merchandise.....	\$69,451,088	\$80,630,143	\$71,124,778	\$76,108,770
Gold and specie.....	2,841,612	2,590,482	17,007,684	7,182,360
Total.....	72,292,650	83,220,625	88,132,412	83,291,130

Imports of merchandise show a large increase over 1906, which year showed an increase of nearly \$10,000,000 over 1905. Compared with 1905, the import trade of 1907 was 33 per cent greater. This movement has been partly due to the greater purchasing power of the community and partly to the higher cost of many articles in England and elsewhere. Of the increase, dry goods, etc., account for \$1,286,035, manufactures of metals for \$1,087,140, and larger business is also shown in galvanized iron and other metal goods, lumber, kerosene oil, and many miscellaneous commodities. While the exports of gold decreased largely, those of merchandise increased by \$4,983,992, on account of the larger shipments of wool, frozen meat, sheepskins and raisins.

IMPORTS AND EXPORTS BY ARTICLES.

The following statements show the principal overseas imports and exports of the State of Victoria during the year 1907:

Imports.		Value and quantities.	Exports.		Quantities.
Agricultural machinery.....	dollars..	718,606	Biscuits	pounds..	1,183,163
Apparel, dry goods, etc.....	do....	22,077,257	Butter.....	do....	34,707,358
Lumber.....	do....	3,060,484	Confectionery.....	do....	220,274
Machinery.....	do....	3,444,260	Flour.....	centals..	1,337,169
Metal manufactures.....	do....	5,371,725	Fruit:		
Beer.....	galls..	616,859	Fresh.....	do....	74,408
Candles.....	pounds..	326,098	Dried.....	pounds..	3,490,645
Cement.....	do....	220,482	Hay and chaff.....	cwt....	84,645
Cream of tartar.....	do....	1,581,984	Jams and jellies.....	pounds..	718,938
Currants.....	do....	1,887,166	Meats, frozen:		
Hops.....	do....	350,895	Beef.....	do....	1,202,439
Iron and steel:			Mutton.....	do....	33,546,355
Bars, girders, etc.....	cwt....	743,875	Poultry.....	pairs..	21,600
Pig.....	do....	407,563	Rabbits.....	do....	3,251,331
Galvanized.....	do....	411,841	Canned.....	pounds..	596,745
Meats, canned.....	pounds..	102,165	Bacon and hams.....	do....	35,022
Oil:			Oats.....	centals..	173,496
Kerosene.....	galls..	7,185,868	Potatoes.....	cwt....	57,433
Castor.....	do....	63,351	Skins:		
Spirits:			Sheep.....	number..	4,052,664
Brandy.....	do....	79,383	Rabbit.....	pounds..	3,418,315
Whisky.....	do....	476,981	Tallow.....	cwt....	137,660
Tea.....	pounds..	14,957,354	Wheat.....	centals..	6,898,162
Tin plates.....	boxes..	95,833	Wine.....	galls..	574,761
Tobacco:			Wool.....	pounds..	164,248,150
Manufactured.....	pounds..	338,785			
Unmanufactured.....	do....	5,799,107			

BRITISH TRADE CONFERENCE.

CONGRESS OF CHAMBERS OF COMMERCE TO BE HELD IN QUEENSLAND.

Consular Agent Asbury Caldwell, of Brisbane, in stating that it has been decided that a Congress of the Chambers of Commerce of

the British Empire will meet in Australia during the year 1909. writes:

Arrangements are being made to bring from 200 to 250 delegates from the chambers in all parts of the British dominions to Queensland during the session of that Congress. The local Chamber of Commerce is making extensive preparations to utilize this opportunity for the extension of Queensland trade. It should also be a good opportunity for the display of American manufactures by all who are seeking British colonial trade.

BORNEO.

AREA. POPULATION, TRADE. AGRICULTURE. AND INDUSTRIES OF BRUNEI.

Consul Lester Maynard, of Sandakan, furnishes a copy of the report of the British resident on the State of Brunei (a sultanate under British protection in the island of Borneo) for the year 1906, from which the following extracts are given:

The State of Brunei comprises an estimated area of about 3,000 square miles, with a coast line of about 100 miles, and lies between Lubok Pulai, the eastern boundary of the Baram district (Sarawak), and Tanjong Puan, at the mouth of the River Trusan. The Limbang district lies within these limits, but no longer forms part of the State, being administered as part of Sarawak. The principal remaining districts of the State are Belait, Tutong, Brunei, Pandaruan, Tamburong, and Laboh. Brunei, the capital, with an estimated population of 10,000 Malays, is distant 42 miles from Labuan. Communication between Labuan and the town of Brunei is maintained by launch service and by sailing schooners owned by Chinese traders.

A proclamation was issued during the year demonetizing the British and Mexican dollars and the nickel coinage of North Borneo, with which the country is flooded, and making Straits Settlements currency the only legal tender.

IMPORTS AND EXPORTS.

At the beginning of the year the trade of each district of the State was in the hands of separate rings of monopolists. In some cases the sole monopoly of trading in certain articles had been granted, and in other cases the right of charging duty on import or export had been sold outright, no limit being fixed for the rates to be charged. The only article not thus exploited was rice, the staple food of the people. The monopolies affecting the import trade of the capital were cleared off, by payment of compensation to the holders, as soon as possible, and customs regulations were then introduced, substituting a fixed and moderate scale of import duties for the restrictions hitherto in force. No export monopolies were redeemed until the last two months of the year. It is therefore impossible to give any reliable trade figures for the whole State during the year under review, no information being available as to the value of goods imported or exported under monopolies.

The total declared value of dutiable goods imported, chiefly into Brunei town, under the customs regulations was \$34,092 United States currency. Large cargoes of rice are brought in by every schooner, although the soil of the country is capable, were it only cultivated, of supplying all the needs of its inhabitants in this respect.

Cotton piece goods, chiefly of German manufacture, and silk from China were imported into Brunei town during six months to a declared value of \$15,335. The imports of cocoanut oil into Brunei town for six months was \$2,094. The imports of sugar amounted to \$5,376.

The monopolies affecting the import of spices were cleared off late in the year and a very low rate of import duty instituted. Spices vary in value and the importation of mixed consignments makes it impossible to assess the value. That the trade is considerable is proved by the comparatively high prices paid for the monopolies of import in the past. The import of opium and spirits was let out as a farm. The value of opium imported was \$3,629. The present import of spirit is almost negligible.

There is a growing volume of export trade, comprising rotans, dammar, getah, and jungle produce of all kinds; but the fact that it was entirely in the hands of monopolists and that the exports were from outlying districts, where the Government had no trained staff, makes it impossible to offer any reliable figures regarding the trade during 1906. Coal to the amount of 14,533 tons was exported from the Rajah of Sarawak's coal mines at Brooketon (Muara) and Buang Tawer. The Island Trading Syndicate exported 3,469,884 pounds of cutch during the year under review.

AGRICULTURE AND OTHER INDUSTRIES.

Very little cultivation has been attempted during late years, the natives of the country having contented themselves with growing occasional crops of paddy. There are, however, many traces of earlier cultivation in the form of abandoned fruit plantations, and a number of these have been cleared and reoccupied during 1906. The soil is generally fertile, especially in the Tutong district, and it is to be hoped that as soon as road communications can be established the people, who at present earn a casual livelihood by the collection of jungle produce, will realize the natural advantages of their country and recommence permanent cultivation of the soil. A large area of land was selected and demarcated toward the close of the year for a rubber plantation.

The main industries of the native population are the collection of jungle produce in the outlying districts, and fishing and the collection of mangrove bark for cutch manufacture. A few Malays are also employed in the Brooketon coal mines and at Buang Tawer.

A factory for the manufacture of cutch has been established in Brunei town since 1901. Mangrove bark is collected in all the creeks of the Brunei estuary under the terms of a monopoly granted by the late Sultan, and this bark is brought upriver by native boats to the factory. The industry employs some hundreds of Malays.

A certain amount of boat and tongkang building is carried on in the Tutong and Balait rivers, and considerable skill is shown in the construction of these vessels. They are, however, only built to meet local demands.

MINERAL DEPOSITS.

Coal, oil, and iron are known and gold and antimony are said to exist in the State, but though various concessions have been granted in the past none have been worked, and none are now operative except those of the Rajah of Sarawak, purchased from Mr. Cowie, the original concessionaire. The Rajah has worked a coal mine at a place named Brooketon, in the Muara district, at the mouth of the Brunei

River, for over twenty years, and has also more recently commenced mining for coal at a place called Buang Tawer, on the Brunei River, about 3 miles below the town of Brunei. The output of coal is stated to have been seriously interfered with during the latter part of the year by the flooding of one shaft of the Brooketon mine and the outbreak of fire in the other.

Six prospecting licenses for oil were issued during the year, but it is as yet uncertain what success will attend the efforts of the prospectors to find oil in paying quantities.

CANADA.

STATISTICS OF IMPORT AND EXPORT FOR THE PAST FISCAL YEAR.

Consul-General John G. Foster, of Ottawa, and Vice-Consul-General P. Gorman, of Montreal, forward unrevised newspaper summaries of the foreign trade of Canada for the past fiscal year, which state:

The foreign trade of the Dominion for the twelve months ending March 31, 1908, totaled \$638,390,291, which is an increase of \$25,818,940 over the record of the preceding year. The total imports of \$358,373,685 represented a gain of \$18,008,940, and the total exports of \$289,016,606 a gain of \$7,810,000. Of the exports \$246,960,968 was in domestic produce, as compared with \$239,634,767 in 1907. The exports of foreign produce amounted to \$33,045,638, as compared with \$32,571,839 in 1907.

The statement of the year's trade by classes is as follows, the first figures in each case being for 1907 and the second for 1908:

Imports.—Dutiable goods, \$200,901,500, \$218,105,116; free goods, \$129,858,781, \$133,719,908; coin and bullion, \$9,604,464, \$6,548,661; totals, 1907, \$340,364,745; 1908, \$358,373,685; duty collected, 1907, \$53,006,456; 1908, \$58,230,751.

Exports (Canadian produce).—The mine, \$36,146,140, \$39,177,133; the fisheries, \$13,786,437, \$13,867,368; the forest, \$45,823,172, \$44,170,470; animals and their produce, \$67,877,104, \$55,101,260; agriculture, \$49,544,327, \$66,069,939; manufactures \$26,279,049, \$28,507,124; miscellaneous, \$178,538, \$67,674; totals, 1907, \$239,634,767; 1908, \$246,960,968.

During the month of March the imports amounted to \$30,052,232, as compared with \$36,842,076, a decline of \$6,789,844. The exports of domestic produce, however, of \$17,943,487 represented a gain of \$2,983,214, made up of increased exports of agricultural produce, of increased exports of minerals, of fisheries, and of manufactures.

SANTO DOMINGO.

INCREASED IMPORTS AND EXPORTS—COUNTRIES SHOWING IN THE TRADE.

From the annual summary of the commerce of the Dominican Republic for the calendar year 1907, submitted to the Bureau of Insular Affairs, War Department, on March 2, 1908, by the General Receiver of Dominican Customs, the following statistics are compiled:

The following statement shows the imports and exports of the Dominican Republic from and to the principal countries in 1905 and 1907:

Imports from—	1905.	1907.	Increase.
United States.....	\$1,961,020	\$2,863,709	\$902,689
Germany.....	441,450	953,963	512,513
United Kingdom.....	366,684	761,787	395,103
France.....	150,304	250,408	100,104
Spain.....	43,417	123,448	80,031
Italy.....	80,873	103,908	23,035
All other countries.....	52,515	98,908	46,393
Total.....	3,096,263	5,156,121	2,059,858

Exports to—	1905.	1907. -	Increase (+) or de- crease (-).
United States.....	\$4,484,271	\$3,829,018	-\$1,155,253
Germany.....	1,261,006	2,759,624	+ 1,498,618
United Kingdom.....	82,800	330,787	+ 247,987
France.....	953,065	1,078,308	+ 125,243
Spain.....		4,829	+ 4,829
Italy.....		11,617	+ 11,617
All other countries.....	114,956	124,853	+ 9,897
Total.....	6,896,098	7,638,536	+ 742,438

While the foregoing figures show that the imports from the United States constitute much more than one-half the value of the total imports of the Republic, it also shows that they have not kept pace with the increased trade of the Republic, the American share of the sales having dropped from 63.3 per cent in 1905 to 55.5 per cent in 1907. On the other hand, Germany rose from 14.3 to 18.5 per cent, and the United Kingdom from 11.9 to 14.9 per cent.

IMPORTS BY ARTICLES AND COUNTRIES.

The following statement showing the value of the leading imports into the Dominican Republic and the countries from which they were chiefly imported in 1905 and 1907 will enable American exporters to see wherein they have failed to keep pace with the increased trade of the Republic:

Articles and countries.	1905.	1907.	Articles and countries.	1905.	1907.
Agricultural implements:			Fish, preserved, and prod- ucts:		
United States.....	\$25,394	\$20,491	United States.....	\$109,455	\$155,643
Germany.....	19,230	21,238	Germany.....	933	2,864
United Kingdom.....	2,427	4,685	Spain.....	1,264	2,410
All other countries.....	1,780	74	All other countries.....	2,482	1,317
Total.....	38,831	46,488	Total.....	114,134	162,234
Books, maps, etc.:			Glass and glass manufac- tures:		
United States.....	2,563	3,789	United States.....	5,605	13,288
Germany.....	1,542	5,224	Germany.....	3,099	8,159
Spain.....	463	4,670	All other countries.....	859	1,781
France.....	1,445	2,986	Total.....	9,563	23,228
Cuba.....	388	2,526	Hats and caps:		
All other countries.....	35	583	United States.....	9,070	3,603
Total.....	6,436	19,778	Italy.....	47,364	49,670
Flour:			Spain.....	144	7,677
United States.....	208,968	322,734	All other countries.....	8,952	3,431
All other countries.....	855	3,052	Total.....	65,530	64,381
Total.....	209,823	325,786	Iron and steel, and manu- factures of:		
Cotton manufactures:			United States.....	287,381	381,061
United States.....	218,100	494,279	United Kingdom.....	63,568	87,796
United Kingdom.....	190,074	506,737	Germany.....	37,022	42,759
Germany.....	60,450	90,630	France.....	10,438	16,476
France.....	36,347	54,542	All other countries.....	5,750	9,595
Spain.....	20,102	58,698	Total.....	404,159	537,707
Italy.....	27,701	13,793	Clocks, watches, and jewelry:		
Total.....	552,774	1,218,679	United States.....	1,532	4,551
Earthen and china ware:			Italy.....	1,141	10,596
United States.....	589	1,387	France.....	3,588	7,981
Germany.....	13,144	26,633	Germany.....	846	2,112
United Kingdom.....	1,915	3,970	All other countries.....	192	48
All other countries.....	1,068	2,158	Total.....	7,299	25,288
Total.....	16,736	34,148			

Articles and countries.	1905.	1907.	Articles and countries.	1905.	1907.
Leather, and manufactures of:			Rice:		
United States.....	\$59,455	\$116,988	United States.....	\$31,618	\$41,947
United Kingdom.....	3,860	8,989	Germany.....	127,704	380,564
Germany.....	3,188	5,678	United Kingdom.....	35,334	41,304
France.....	4,988	5,060	All other countries.....	6,673	8,330
Spain.....	1,312	2,209	Total	201,329	472,145
All other countries.....	161	209			
Total	72,964	189,133	Soap:		
Malt liquors (beer in bottles):			United States.....	22,382	46,566
United States.....	5,240	9,174	All other countries.....	540	1,595
Germany.....	30,572	59,415	Total	22,922	48,161
United Kingdom.....	690	2,272			
All other countries.....	2,650	1,565	Sugar and candy:		
Total	39,152	72,426	United States.....	22,265	69,744
Oils:			France.....	1,457	3,897
United States.....	147,309	239,446	Germany.....	1,549	2,017
Spain.....	2,013	11,957	All other countries.....	1,326	4,503
France.....	1,653	2,315	Total	26,597	80,162
United Kingdom.....	1,057	2,149			
All other countries.....	3,902	12,330	Vehicles:		
Total	155,934	268,197	United States.....	14,914	19,968
Paints, pigments, and colors:			Germany.....		16,060
United States.....	9,117	10,805	All other countries.....	450	1,106
United Kingdom.....	2,577	5,785	Total	15,364	37,134
Germany.....	2,505	3,728			
All other countries.....	166	220	Wines and liquors:		
Total	14,365	20,538	United States.....	2,693	959
Paper, and manufactures of:			France.....	10,290	19,566
United States.....	13,170	14,654	Spain.....	4,394	11,230
Germany.....	7,945	17,461	Germany.....	2,968	7,019
All other countries.....	7,134	9,068	All other countries.....	2,535	6,001
Total	28,249	41,183	Total	22,900	44,775
Provisions, meat and dairy products:					
United States.....	72,834	154,235	Wood, and manufactures of:		
Germany.....	56,101	116,550	United States.....	87,355	141,731
Porto Rico.....	1,241	20,460	Germany.....	4,719	12,125
France.....	4,870	8,170	France.....	598	2,311
All other countries.....	8,149	6,166	All other countries.....	3,510	2,920
Total	138,195	305,581	Total	96,182	159,087

EXPORTS BY ARTICLES—NATIONALITY OF SHIPPING.

The principal exports of the Dominican Republic in 1907 were as follows: Cocoa, \$2,938,453, of which \$1,185,096 worth went to Germany, \$936,057 to the United States, and \$865,249 to France; raw sugar, \$2,099,679, of which \$1,775,121 worth went to the United States, and \$314,728 to the United Kingdom; leaf tobacco, \$1,341,233, of which \$1,260,335 worth went to Germany, \$59,622 to France, and \$12,891 to the United States; bananas, \$319,500, all to the United States; coffee, \$252,390, of which \$93,894 worth went to France, \$65,159 to the United States, and \$63,441 to Germany; the other exports were composed of hides and skins (\$134,040), honey, sisal, wax, woods, etc. The decreases recorded in the exports to the United States in 1907 as compared with 1905 occurred in sugar (\$2,068,316) and in tobacco (\$131,000), while increases occurred in the exports of cocoa, bananas, coffee, and hides and skins.

The following statement shows the nationality of the shipping through which the foreign trade of the Dominican Republic was conducted in 1907:

Flag.	Imports.		Exports.	
	Value.	Per cent.	Value.	Per cent.
American.....	\$2,804,605	54	\$2,590,464	34
German.....	1,629,715	32	2,538,631	33.2
All other flags.....	721,801	14	2,503,441	32.8
Total.....	5,156,121	100	7,638,536	100

PARAGUAY.

ARGENTINA, GERMANY, SPAIN, AND ITALY CONTROL THE GROCERY TRADE.

Consul Edward J. Norton, of Asuncion, in transmitting the following information concerning the grocery trade of Paraguay, reports that foodstuffs, provisions, and groceries form the second group of the imports of the Republic, being only exceeded by the imports of textiles:

The value of foodstuffs, provisions, and groceries imported into Paraguay during the years 1903, 1904, and 1905 were as follows, in gold: \$621,831, \$619,321, and \$586,123, respectively.

Argentina supplies, on an average, 50 per cent of the trade in the form of wheat and wheat flour, the imports from that Republic in 1905 amounting to \$333,217.

Fully one-half the balance of the trade in foodstuffs is credited to Germany, consisting of rice, canned vegetables and fish, delicatessen products, soups, oatmeal, rice, bean and corn flour. Spain occupies third place with sales of olives, olive oils, canned vegetables, beans, and pickles; and Italy is fourth, supplying olive oils, macaroni, and paste products, tomato sauce, and preserves.

Fine fruit preserves, fancy canned vegetables, such as asparagus, mushrooms, etc., preserved meats, patés, etc., preserved cheese, jams, and biscuits, come from France.

The sixth place is held by the United Kingdom, with teas, cocoa, dried fruits, jams, pickles, canned meats, fish, and vegetables, hams, bacon, oatmeal, and condensed milk, and the United States comes seventh, supplying a very limited line of canned salmon and oysters, deviled ham, cereals, California fruits, corn starch, and baking powder. Paraguay has been neglected by American exporters of groceries, who should have a much larger share of this trade than they have at present.

SALABLE FOODS—SHIPPING ADVICE.

The following American goods, especially, ought to be sold here: Laundry starch, sardines, navy beans, flavoring extracts, baked beans, cheese, canned fruits, dried fruits, prunes, salt codfish, boned codfish, raisins, pickles, and table syrups, chocolate, condiments, candies, cocoa, desiccated cocoanut, hams, condensed milk, canned vegetables, bacon, etc.

California canned fruits are not sold here to the extent they should be. Jams and preserves are in good demand. Cocoas, chocolate, and

cheap confectionery are staple goods. American condensed milk is not known here. Dried fruits come from Europe, instead of from the United States. American pickles will easily hold their own against the European goods now sold here. Hams and bacon come also from Europe.

Dried fruits for this market should be packed, as for tropical climates, in carefully sealed packages. Hams and bacon should have extra heavy canvas wrappings.

All merchandise for Paraguay is subject to transshipment at Montevideo, and, as cargoes are discharged generally from ship to lighters, packages are subject to rough handling. Cases of canned goods should be strapped with iron, or better yet for this market—in fact, for any point south of the Isthmus of Panama—extra heavy cases should be used.

Groceries pay, on an average, 35 per cent ad valorem duty in Paraguay.

As dealers here usually complain that freights and expenses are much higher on goods coming from the United States than from Europe, through freight rates should be obtained if possible, and goods for Paraguay should be marked, "Montevideo" or "Buenos Aires" (point of transshipment), "Transito para Asuncion." [A list of the names of the principal importers of groceries in Paraguay and the address of Asuncion commission men who would act as agents for American manufacturing grocers, together with some European catalogues and price lists, transmitted by Consul Norton, are on file in the Bureau of Manufactures.]

URUGUAY.

INCREASE IN BOTH IMPORTS AND EXPORTS LAST YEAR.

In a message to the Uruguayan Congress the president of that Republic made the following references to the foreign trade for last year:

A general estimate shows that the total trade of Uruguay for 1907 amounted to \$69,576,143, of which \$34,425,205 was for imports and \$35,150,937 for exports. These figures indicate an advance of about \$8,000,000 over 1905 statistics, when the foreign trade aggregated \$61,551,850, comprising imports worth \$30,777,603 and exports worth \$30,771,247. It is thus shown that both branches of trade made noteworthy gains. The customs revenue in 1907 was greater by \$331,612 than in 1906, while a treasury surplus of at least \$1,800,000 is anticipated for the close of the fiscal year on June 30, 1908, as expenditures to that time are fixed at \$10,652,919, including an extraordinary item of \$410,602, to meet which an anticipated revenue of \$12,453,780 will be available on the basis of the receipts of the preceding year.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

GREECE.

PROPOSED EXTENSIONS IN SEVERAL PARTS OF THE KINGDOM.

Consul Edward I. Nathan, of Patras, advises that the railroad lines in western and southern Greece are to have several important extensions if the plans now under consideration are carried out. The consul describes these lines as follows:

At present the lines in southern Greece practically consist of a belt line encircling the Peloponnesus (peninsular Greece). They are operated by the Piraeus, Athens and Peloponnesus Railroad Company. From Athens the line, which has a total mileage of 750 kilometers (kilometer=0.62 mile), runs to Corinth. At this point it divides into two branches, which by different routes both run to Calamata, an important port of southern Greece. The eastern branch runs via Argos and Tripolis. There is a short spur running to Nauplia, a commercial port in the province of Argolis, and a resort for tourists visiting the ruins at Mycenae, Tiryns, and Epidauros. The western branch from Corinth runs to Patras, a distance of 82 miles (139 miles from Athens), and thence via Pyrgos to Calamata, an additional 179 miles. From Pyrgos there is a branch of 13 miles running to Olympia, the ruins of which are constantly visited by tourists.

There is at present a 9-mile narrow-gage railway from Diakofto, a station on the main line between Corinth and Patras, to Kalavryta, in the mountains of the Peloponnesus. From this point a railway to Tripolis has also been projected, but in view of the difficulty of its construction across the mountains, its small commercial importance, and the more urgent needs of other localities, there is small prospect of its realization in the near future.

NEW PRODUCING REGION TO BE OPENED.

There is at present no railroad communication with Sparta. There is a carriage road 37 miles long extending from there to Tripolis, and it is proposed to parallel this with a railroad which is to extend from Tripolis via Sparta to Gytheion, another port of southern Greece. The opening of direct railroad communication between these points and Athens and Patras would be of great importance to trade and emigration, since almost the entire trade of the Peloponnesus is conducted through these two cities, and one of the main sources of Greek emigration to the United States has been the district about Sparta. The passenger traffic would also be considerably increased by tourists to Sparta, who are now compelled to travel over the carriage road and suffer considerable inconvenience.

Another proposed railroad extension is that of the Northwestern Railway, a branch of the Piraeus, Athens and Peloponnesus Company,

which, beginning at Krioneri, opposite Patras, across the Gulf of Patras (connection by steamer), runs via Missolonghi, the resting place of Byron and the heroes of the Greek war of independence, to Agrinion, an important commercial town of the province of Acarnania-Aetolia. The extension is to run via Caravassera to Arta, on the Ambracian Gulf, a distance of 70 to 80 kilometers, about equal to the present length of the railroad. As the region thus to be opened to railroad communication is important for the production of tobacco, citrons, olives, and cheese, much of which is shipped from Patras, the value of the proposed extension is apparent.

The railroads are of the standard European gage except as stated. The rails are of Belgian manufacture and the rolling stock of German and Austrian locomotives and cars. All inquiries should be directed to M. Caloyeropoulos, minister of the interior, Athens, Greece.

GERMANY.

PROJECTED PLANS FOR THE ELECTRIFICATION OF SEVERAL LINES.

Consul Talbot J. Albert sends the report from Brunschwick that a beginning with electrifying of some of the railroads in Prussia will soon be undertaken, the preliminary plans being as follows:

The railroad ministry will permit the first great attempts to be made with electrical power in connection with the centrals now existing in the administrative district of Magdeburg. In the first place the short sections Güsten-Stassfurt and Güsten-Bernburg-Köthen will be arranged for electrical operation. Later, in further execution of plans, there will be a change of power on the line Magdeburg-Bitterfeld-Leipzig, and afterwards on the line Halle-Leipzig. Upon these, in themselves complete lines of road, electrical power will wholly supplant steam.

The line Leipzig-Halle has been chosen for a special reason. By the electrical operation between these two points there will be a greater increase in the speed and frequency of the trains dispatched, so that in this way Leipzig will be brought into closer connection with the western main lines. The two lines are under the district management of Halle, which has been instructed from the ministry at Berlin to make a detailed inquiry how far electrical power can be economically used in comparison with the present method of operation. It is said that the preliminary work for this statistical inquiry has already been done by the ministry, so that the administration at Halle has only to verify the results already obtained.

The most favorable factor for the economical determination of the question are the bituminous deposits (Braunkohlen) between Halle and Leipzig. This kind of coal is not considered a suitable fuel for locomotives. One electrical central will suffice for the operation of both lines, and this will be built in the midst of the coal strata. Some years ago the favorable location of these strata suggested the electrifying of the railroad between Köln and Trier, but this was abandoned.

It is said the passenger traffic will be handled in the same manner as upon the road Berlin-Lichterfelde-Ost, namely, with small trains and quick service. The express and freight trains will be dispatched with electrical locomotives. The length of the two lines together amounts to 102½ miles, the line Leipzig-Magdeburg being about 80

miles and the line Leipzig-Halle 22½ miles. For the current, which will be conducted on thin wires, 10,000 volts will be required. It is calculated that the change in the system of operation will take two years.

ITALY.

FIELD FOR AMERICAN CAR FIXTURE INVENTORS.

Consul James E. Dunning, of Milan, forwards the following additional report, made by Clerk Siersdorfer of the consulate, on the opportunity for an American railway coupler in Italy:

The consulate's previous report, published in Monthly Consular and Trade Reports for November, 1907, gave the requirements of the Italian Government for a railway coupler. It was stated in the report that since the American manufacturer missed the opportunity of entering the concourse held at the Milan Exposition, the only thing for him to do was to keep a sharp lookout for another of its kind to be held in Italy. This opportunity has come sooner than expected. There were 200 entries in the concourse at the Milan Exposition and every device proved unsatisfactory in many different ways. Finally the Royal premium was not awarded, but was turned over to the "Collegio Nazionale Italiano d'Ingenieri Ferroviari," with the understanding that it would hold a second concourse as soon as possible.

Thereupon the college nominated a special commission, electing as president Engineer Ambrogio Campiglio, who had played an important part in the exposition concourse. The ministry has already donated \$1,000 to the concourse with a view to making it interesting to foreign manufacturers. A short time ago the commission held its first meeting in Milan, when all necessary preparations for the coming concourse were commenced. The date is not yet arranged.

As has already been reported by the consulate, this is an excellent opportunity for American manufacturers to prove to the Italian Government the superior quality of their coupler. It may be remarked that this will probably be the last concourse of its kind held in Italy, and that every effort will be made by the Government to locate a satisfactory coupler. The American article will have plenty of competition, but in view of the late failure of foreign couplers to win favor it will stand at least an equal chance.

American firms interested should address "Engineer Cav. Ambrogio Campiglio, via San Giovanni sul Muro, 25, Milan," who will send them all necessary specifications and regulations for the coming concourse. Correspondence with Mr. Campiglio should be in French or Italian if possible, and American houses should ask from him all detailed information which the consulate's reports on the subject may lack.

UNITED KINGDOM.

INCREASED RECEIPTS AND WORKING EXPENSES ON SCOTCH RAILWAYS.

Consul Maxwell Blake, of Dunfermline, under date of March 31, furnishes the following statistics concerning the receipts and expenditures of the Scotch railways:

The statistics of Scottish railways for the half year past have just been made public by all the companies. The aggregate accounts of

all five of the operating companies of Scotland yielded a gross revenue of \$30,027,837, which was an increase of \$393,159 over the preceding corresponding period; while the working expenses aggregated \$17,001,327, which was an increase of \$754,755 for the half year. Thus there were larger earnings with a reduction of \$364,028 of net revenue.

The five companies concerned show a gain, from the items of passenger-traffic and mails, of \$266,217, and of \$127,658 from goods transported, but they suffered almost an unaccountable loss of \$161,781 in the transit of minerals. This is in contrast to the English railways, whose largest increase was for the transit of coal.

Examining and comparing the accounts further, it is observed that the total wage bill was \$52,558 greater, and that the cost of materials was \$105,603 greater. Coal cost the five companies \$710,995 more than it did the previous half year.

The foregoing is given as a reason for the unusually low dividends declared, the highest of which was 1 per cent, paid on the South Western, the lowest being $\frac{1}{4}$ per cent on the deferred and ordinary stock of the North British.

As all roads show an increase in working expenses, extraordinary efforts are now being made to check the downward trend of dividends. At many stations competing lines are inaugurating a joint ticket office, and are otherwise coming to effective agreements as to policy of management or the actual pooling of interests; as, for example, between Edinburgh and Glasgow, where the traffic is hereafter to be apportioned between the only two roads, upon an agreed basis of division, irrespective of the gross returns of either line.

NORWAY.

SEVERAL LINES TO BE BUILT BY THE GOVERNMENT.

Consul Felix S. S. Johnson, of Bergen, reports that the railroad committee has reported favorably the Norwegian Government's proposal for constructing the following lines:

(1) From Domaas over Dovre to Støren, with a reconstruction of a broad-gage track from Støren to Trondhjem; (2) from Domaas through the Rauma valley to the inner end of the Romsdalsfjord; (3) the portion of a Vestland railroad from Kongsberg to Naeslandsvand, with branches from Naeslandsvand to Kragerø, and from Hjuksebø to Notodden; (4) continuation of Arendal-Aamli railroad to Tveitsund; (5) the portion of a Nordland railroad from the Sunnan over the Snaasen to Grong; (6) branch, Myrdal-Fretheim.

CHINA.

DECREASED RECEIPTS AND DULL TRADE IN MANCHURIA.

Consul-General James W. Ragsdale, of Tientsin, transmits the following information concerning the working of the Imperial railways of North China, for the year ended September 30, 1907, as given in the report of the directors:

Accounting for the decreased income the directors report as follows:

For several reasons the trade of North China generally was not so good during the year 1907 as during 1906. Large stocks of cotton piece goods and other merchandise intended for Manchuria failed to find a market. Dealers in native produce have also been complaining of the stagnation of trade. This state of affairs culminated in the suspension of one of the largest Chinese firms in North China. The trade returns of the Imperial Chinese maritime customs for the ports of Tientsin and Newchwang both show large decreases and the railway, among others, has suffered in this trade depression. Another factor tending to diminish our receipts has been the activity of shipping competition for passengers between Tongku and Newchwang, while the railways in Manchuria have also come into competition with us both in passenger and freight traffic.

The total earnings for the past three years are as follows, all moneys being Mexican dollars, equal to 46.6 cents gold:

Receipts and expenditures.	1905.	1906.	1907.
Earnings.....	\$12,948,884	\$12,191,189	\$9,944,807
Working expenses.....	\$2,914,102	\$3,429,943	\$3,686,320
Ratio in percentage of working expenses to earnings.....	22	28	37

The earnings were received from the following sources: Passengers (3,276,202), \$5,046,139; freight, military and miscellaneous (1,474,008 tons), \$4,898,727. The principal expenditures were for the improvement of the line, \$2,132,526; salaries, office expenses, etc., \$165,734; wages, materials, etc., \$852,232; all other, \$535,828; total, \$3,686,320.

Steady progress has been made in the important matter of extending the safety appliances on the line and the directors report that 3,276,202 passengers were carried throughout the year of 1907 without any train accidents resulting in loss of life. The first-class passenger and dining cars are lighted by electricity and are provided with electric fans during the hot season. These cars are comfortable and in every way creditable to the administration.

The total number of miles of main line open to traffic on September 30, 1907, was 600, 38 miles of line—from Hsin-min-tun to Mukden—purchased from the Japanese military authorities on June 1, 1907, having been added during the year.

ROLLING STOCK—MACHINE SHOPS—WAGES OF EMPLOYEES.

The rolling stock consists of 236 passenger cars, 2,673 freight cars, and 117 engines or locomotives. The company has 4 machine shops, giving employment to 6,653 laborers. The principal shop, at Tongshan, is electric lighted and provided with electric fans; the others are not so favorably provided. Both engines and cars are newly built by the company at these shops, in addition to the many repairs required for the old stock. Bridging irons are also cast for the new bridges and for the repairs of old ones. The company also owns its own telegraph line, with 1,384 miles of wire, besides 317 miles of electric or telephone service, with an average of 273 operators and employees. Over these lines 144,661 messages were sent during the year.

The monthly wages paid to native employees are as follows, in Mexican dollars: Conductors and engine drivers, \$22 to \$75; firemen, \$9 to \$38; brakemen, \$6 to \$12; section foremen, \$12 to \$45; section laborers, \$8. Foreign conductors receive from \$150 to \$180. Mechanics in the machine shops receive from \$12 to \$50.

BRITISH NORTH BORNEO.**RAILWAY BUILT, OWNED, AND OPERATED BY THE GOVERNMENT.**

The following report concerning the railway line on the west coast of British North Borneo, is furnished by Consul Lester Maynard, of Sandakan:

The British North Borneo line is the only railway in the territory and was built and is owned and operated by the government. The construction of the road commenced in 1896 and the line was completed from Jesselton to Tenom, with a branch from Beaufort to Weston, in 1905. A further extension, from Tenom to Melalap, of 10 miles is now under construction, and Dutch rails are being used. On the main line there are 62 miles of British-made 30-pound rails and 60 miles of American rails of the same weight, totaling at the present time 132 miles of 1-meter gage (39.37 inches), of which 122 miles are in operation. The total cost of construction (capital cost), including rolling stock, etc., up to the end of 1905 was \$2,800,000 gold.

The construction of the road was extremely difficult on account of the nature of the country, and the builders evidently desired to complete the road at as little cost and in as short a time as possible. For two-thirds of the distance from Jesselton to Beaufort the road is parallel to the sea coast, and it is not until it runs inland that good country is opened. From Beaufort to Tenom the road follows the course of the Padas River, and 33 miles of cuttings were made in the gorge, which is very narrow, and as the hills on either side are steep and high the line again fails to open up country. Had the line been constructed farther inland it would have cost much more and would have taken longer to build, but it would have passed through the rich valleys of the foothills. Beyond Tenom the soil is well suited to the cultivation of tobacco and rubber.

EXTENSION PROSPECTS, EQUIPMENT AND OPERATION.

It is the intention, it is said, of the government to extend the line beyond Melalap. If this is done it will pass through a great rich valley, but it will probably be several years before this is accomplished.

The rolling stock at the present time consists of 4 freight and 5 passenger engines, and 160 freight and 18 passenger cars. Of the engines 1 is 35 tons, 2 are 30 tons, 4 are 25 tons, and 2 are 12 tons. The largest freight cars are 16 feet in length and have a capacity of 10 tons; the passenger cars are 30 feet in length and accommodate 40 passengers. About 50 16-ton meter-gage steel trucks were ordered from England in 1907, but the order has not been filled to date.

The rolling stock is considered very heavy, and in many places the road resembles a switch back, climbing a short, steep hill, rounding a sharp turn, and rushing down the opposite side directly onto a bridge.

Two passenger trains are run daily (Sunday excepted) between Jesselton and Tenom, one in each direction. The average rate of speed of passenger trains is 12 miles an hour. Freight trains are run between Jesselton and Beaufort three times a week and between Beaufort and Tenom twice a week, one in each direction.

There are about 70 bridges, of which the longest is 600 feet, and two tunnels, 600 and 200 feet, respectively. During the rainy season,

or about half the year, the roadbed is continually being washed out and landslips occur after each heavy rain, but as labor is cheap the upkeep of the line is about \$14 gold per mile per month.

The revenue and expenditure of the railroad for the year 1906, the latest year for which statistics are available, were as follows, in gold: Working expenses, \$60,258; receipts, \$37,237; deficit, \$23,021. [The laws and regulations governing the road, the classification of goods, and passenger and freight rates, transmitted with Consul Maynard's report, are on file in the Bureau of Manufactures.]

TUNIS.

COLONY AFFORDS A PROSPECTIVE MARKET FOR AMERICAN ENGINES.

Consul-General Robert P. Skinner, of Marseille, is in receipt of an inquiry from an American firm of locomotive builders in regard to the outlook for the sale of their engines in France, to which he replies:

I see no immediate probability of securing contracts in this country, but suggest that attention be turned to Tunis, where the railroad system is undergoing radical reconstruction and important extension. It would probably be worth the while of American builders to enter into direct correspondence on this subject with our consular agent, Auguste J. Proux, with a view to being represented in Tunis at the proper time. Some American locomotives have already been delivered in Tunis, and within recent months a contract has been passed by the Government with a firm of Cassel, Germany, for fourteen machines, and another with works in Berlin for a similar number of machines. Mallet compound engines with six-coupled axles have been ordered. The copper work is required to be of French manufacture, but there is no specification as to the other parts. It is understood that the price is to be about 100,000 francs (\$19,300) each, delivery to be made within twelve months. The whole matter is under the charge of the Directeur-Général des Travaux Publics, at Tunis.

A law of January 10, 1907, authorized the Tunisian government to borrow 75,000,000 francs (\$14,475,000) for the purpose of completing and extending the railroad system of the Regency, this loan to be made by successive fractions, according to public necessities. Expenditures were provided for, immediately after the passage of the law, to the extent of 20,000,000 francs (\$3,860,000), and, under date of April 25, 1908, further expenditures of 20,000,000 francs (\$3,860,000) have been authorized by the President of the Republic. Of this amount 3,800,000 francs (\$733,400) must be devoted to the building of routes; 12,200,000 francs (\$2,354,600) to railroad construction, and 4,000,000 francs (\$772,000) to the purchase of rolling stock.

French statistics include locomotives and steam engines under the same head, the figures for the last three years being as follows:

	1907.	1906.	1905.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Importations.....	6,298	1,735	970
Exportations.....	2,397	2,155	2,240

SALVADOR.**PROPOSED EXTENSION TO CONNECT WITH LINE IN GUATEMALA.**

In previous reports from Consul-General Samuel E. Magill allusion has been made to the great value which a railroad connecting Salvador with a port on the Atlantic would be to American trade with Salvador. Mr. Magill now writes under date of April 13:

The construction of such a road has been made possible by the completion of the Guatemalan Northern from Puerto Barrios, on the Atlantic, to Guatemala City, necessitating only a line from Zacapa, Guatemala, to Santa Ana, Salvador, to connect with the Salvador Railway Company.

As the territory of Salvador touches the Pacific Ocean only, the advantage of an accessible port on the Atlantic is evident. It now requires from fifteen to thirty days' time to make the journey from San Salvador to New York, as much as is necessary to go from New York to Japan or South Africa, and the delays and changes are numerous.

For freight shipments the advantages would be even greater than for passenger traffic, as shipments could reach Puerto Barrios in eight days from New York and in three days from New Orleans, thence to San Salvador in two days, which short time would place the trade of Salvador in the hands of the merchants and manufacturers of the United States in a way that no other influence could possibly do. It would likewise work a change in the volume of American trade with this country such as was caused in Mexico after 1885 by direct railroad communication with the United States.

SURVEYS UNDER WAY—IMPORTANCE OF THE PROJECT.

To bring this about it is necessary to build about 100 miles of road, half in Guatemala and half in Salvador, which construction the builders of the Guatemala Northern are willing to undertake. They are making preliminary surveys over the route starting from Zacapa, having reached a point within 8 miles of the frontier.

About a year ago Salvador granted a concession to build the road in its territory, but there were clauses in the contract which the proposed builders could not accept and the matter was not closed; the Salvador Railway Company now appears and offers to accept the contract, clauses and all.

The Guatemala Northern Railway Company is an American concern, while the former is owned and managed by Englishmen.

Over this proposed line the letter mail between this country and the United States and Europe now goes weekly on mule back, and has thus gone for some years. This clearly demonstrates the time to be saved by this route over that via Panama or Salina Cruz, Mexico, while I know of no greater factor in the commercial opening of this country to American trade than the construction of this proposed road. Another consideration of perhaps greater importance would be the effacement, commercially, of the frontier between the two countries named and the influence of these, the two most populous States of Central America, would tend to insure its future growth and development.

The latest information that the writer has been able to get is to the effect that the Government of Salvador is at present disposed to give the desired concession to the representatives of the American

interests, who agree to commence work as soon as the surveys are completed and push the work to its completion as fast as possible.

BRAZIL.

WORK TO BE PUSHED ON BRAZILIAN LINK OF PAN-AMERICAN LINE.

Consul-General George E. Anderson, of Rio de Janeiro, advises that final arrangements for the immediate construction of the railway connecting the present governmental system in the State of Sao Paulo with the Bolivian frontier at Corumba seem to have been made by the Brazilian authorities. Mr. Anderson adds:

An agent of the constructors sailed from Brazil on April 2 for Europe for the purpose of negotiating for materials and supplies for the new road. Work upon the engineering details has already begun and preliminary work for commencing operations at the Sao Paulo end of the enterprise has been done. The contract calls for the completion of the 1,100 kilometers (kilometer=.62 mile) of the road in thirty months, the portion yet remaining of the present federal administration in Brazil. Work will be pushed from either terminus and it is expected that by March, 1909, the road proceeding from the Sao Paulo terminus will have reached Itapura, on the Parana. The expedition for work from the Corumba end is about to leave Rio de Janeiro.

The entire work is to be done by the French syndicate which has the contract for the Sao Paulo portion of the system and which has been prosecuting the work in that State for the past year. The road, as so far completed and as now projected, starts from Bauru, in Sao Paulo, running northwest to Itapura. The road has been completed about one-third of the distance between Bauru and Itapura and graded more than half of the balance of the distance. Considering the nature of the country and the amount of work to be done, the contract for the completion of the entire work in thirty months is notable.

As indicated in previous reports from this consulate-general, the railway when completed will form an important link in the projected Pan-American railway system. [The address of the construction company is obtainable from the Bureau of Manufactures.]

COLOMBIA.

SEVERAL IMPORTANT LINES TO BE CONSTRUCTED.

Consul Isaac A. Manning, of Cartagena, reports that according to a telegram received at Bogota bearing date of London, March 11, the money for the construction of the railway leading from Puerto Wilches on the Magdalena River to Bucaramanga, capital of the Colombian Department of Santander, has all been subscribed there, and that it is presumed work will begin at once.

According to recent reports the rails have been laid on the Girardot railway to kilometer No. 82, a league beyond the station at Hospicion. About 3,300 laborers are employed on the construction at present.

The Minister of Public Works has declared the maps submitted of the surveys made on the Uraba or Darien railway unacceptable to the Government. Mr. Henry G. Granger, the concessionaire, has

been given a year in which to present new plans or surveys of the line from its point of beginning at Uraba or Ciudad Reyes to Dabeiba, and two years to present maps of the rest of the line to Medellin.

ELECTRIC CAR LINES.

UNITED KINGDOM.

A SURFACE-CONTACT SYSTEM ABOUT TO BE ESTABLISHED IN LONDON.

In furnishing information concerning the equipment of a surface-contact line about to be opened for traffic in London, Consul-General Robert J. Wynne reports that while this system has been talked about for years little or nothing has resulted in practice up to the present undertaking. He writes:

The electric railways of London are for the most part constructed on the slotted conduit system. The cost of the track work alone, with its deep excavation for the conduit, is over \$170,327 per mile of double track. Attempts have been made to get the borough councils to consent to the overhead-wire system, which would only cost half the money for permanent way, including poles and wires. These attempts have failed. Millions are being spent in the London electric railroads, miles of horse lines remain yet to be electrified, and additional routes require to be opened up. Despite the enormous traffic the tramways, according to a recent commercial audit, are barely paying their way.

COST DETAILS OF THE NEW LINE.

During last summer, the new council approved a proposal to try a surface-contact system, and on the advice of their engineering experts chose a system which is in use in Lincoln. The route selected is the horse tramway from Aldgate along Whitechapel and Mile End roads to Bow, a distance of 3 miles. The leakage amounts to only a fifth of an ampere for 3 miles of track, and the current consumption is only 1 unit per car mile, with 9-ton cars on a level track. The London route is level. The cost of construction is put generally at about \$4,866 per mile of single track more than for the overhead-wire system. The following figures have been put before the county council as the cost of the Aldgate to Bow installation. The length of route is 3 miles, giving 6 miles of single track: Track construction, \$236,599; rails, \$53,531; special track work, \$14,600; feeder cables and cable ducts, \$67,401; surface-contact equipment for 48 cars, \$16,351; royalties, \$14,600; total, \$403,082.

This is equal to \$67,180 per mile of single track. A large part of the track construction item would be the same for the trolley system, and the rails, special track work, and feeder cables and ducts would be exactly the same. It will be noted that the cars themselves are not included, as they form part of the council's stock. Forty-eight of these—large cars with roof covers—may be estimated roughly at \$194,660, bringing the total for construction, equipment, and rolling stock up to about \$597,742, or some \$99,624 per mile of single track.

Power station and substation costs are, of course, left out, as the city's power station supplies current for the whole of the systems both north and south of the Thames.

RUSSIA.

NEW ELECTRIC LINE SUPPLANTS ANIMAL POWER TRACTION.

In stating that the first electric street-car line in Warsaw started in operation in April, Consul Hernando de Soto gives the following particulars of the new system in that Russian city:

The electric line succeeds horse-drawn cars introduced in 1881 by a Belgian company, which in 1889 sold it to the city for an annual payment of \$175,000 until the expiration of the concession, in 1916. Operating 304 cars and charging passengers 7 kopecks (3.6 cents) first class and 5 kopecks (2.5 cents) second class for not exceeding 2 miles, a gross revenue of \$839,052 was secured in 1907. No change of wages to employees is contemplated in the substitution of electric for horse cars. The daily hours are from 7 a. m. to 11.30 p. m., with intervals for meals, for which drivers receive 62 to 67 cents; conductors, 62 to 83 cents. Inspectors receive \$30.90 to \$41.20 per month.

The reconstruction work was carried on through a building committee appointed by the Emperor. The principal private contractors were German electric companies. There will be 180 cars with motors at the end of each, while the power house has 3 turbine generators of 1,800 horsepower each, the tension being 600 to 650 volts.

The system will be managed by a syndicate, which has closed a contract with the city until 1922. The syndicate agrees to pay the city an annual sum of 402,000 rubles (\$207,030) and 5½ per cent on the invested capital of about 7,000,000 rubles (\$3,605,000). Out of these receipts the city will continue the payment of 350,000 rubles per annum to the Belgian company up to the year 1916. After the expiration of this liability the income passes into the city treasury. Whatever surplus net profit remains after payment to the city of the sums agreed upon is to be divided into equal parts between the city and the syndicate.

MOTOR VEHICLES.

FRANCE.

EXPLOSIVE ENGINE MOTORS DRAWING FULL TRAINS ON THE HIGHWAYS.

Consul-General Robert P. Skinner, of Marseille, furnishes the following information concerning the running of passenger and freight trains on the highways of France:

There recently passed this consulate a "Train Renard," composed of a locomotor, two passenger cars, and one baggage car, which had just arrived from Paris under its own power and over the ordinary roads, thus supplying to the public a demonstration of its own efficiency. The trains mentioned are composed of elements, each receiving the energy of a vehicle called the locomotor, which being placed at the head of the train distributes the necessary power to the following elements by means of a transmission shaft extending from one end of the train to the other, thus enabling each car to utilize its own adhesion to the road surface as a means of advancement.

The locomotor—that is to say, the creator of the energy—is therefore lighter than any of the cars. Trains of this type completely loaded are able to maintain a speed of 21 kilometers (13.05 miles)

per hour in case of passenger trains on levels and of from 15 to 16 kilometers (9.32 to 9.94 miles) per hour in the case of freight trains. It is said that freight trains of this type are able to maintain an average of from 10 to 12 kilometers (6.21 to 7.45 miles), fully loaded, in any kind of country.

PUBLIC UTILITY OF HIGH-ROAD TRAINS IN FRANCE.

It would be useless to enter into further details regarding these high-road trains, as far as the United States is concerned, inasmuch as we are without a road system sufficiently advanced to make their application possible. On the other hand, the adoption of passenger and freight trains over railless roads in France has become not only a possibility but a fact. Already hundreds of inaccessible hamlets, hitherto served by slow-going diligences, are kept in constant contact with the outside world by means of large auto-omnibuses, moving at an average rate of 15 miles an hour, transporting both passengers and express parcels; and now, following this development, comes the explosive engine motor, drawing full trains of cars, which it is claimed can be operated on level or mountainous roads at an exceedingly moderate expense. In other words, if all that is claimed for these trains is realized, it will be possible to give 25,000 communes in France, which do not at present enjoy railroad facilities, approximately the same advantages with respect to transportation as the more populous and highly favored centers.

This illustrates how much the creation of a better highway system would benefit the rural populations of the United States, who are at a great disadvantage in regard to transportation as compared with foreign communities, and deprived of the various kinds of satisfaction resulting from the existence of modern highways. [Two illustrations, one of a passenger train and the other of a freight train, which accompanied Consul-General Skinner's report, are on file in the Bureau of Manufactures.]

UNITED KINGDOM.

TAXICABS RAPIDLY SUPERSEDING OTHER CONVEYANCES IN LONDON.

Consul-General Robert J. Wynne reports that taxicabs have become such popular street vehicles in London that the demand for them is much greater than the supply. He adds:

The taxicabs are used by all classes of people, day and night, at the uniform rate of 16 cents a mile, and they present a most attractive appearance in chocolate, blue, yellow, red, and green hues, with chauffeurs in the brightest and smartest liveries.

Although scarcely a year has passed since these swift-moving electric and petrol carriages appeared, the capital already invested in London taxicabs is \$10,000,000. There are 758 taxicabs on the streets, 2,600 taxicabs on order, 1,700 licensed drivers, an average of 55 certificates granted each week. There are 8 London taxicab companies, their average day's takings of a taxicab being \$11.20. The average cost of a London taxicab is \$1,703, and its average takings are about \$78 a week.

Some chauffeurs already are buying their own taxicabs on the installment plan, and the picturesque hansom is disappearing gradually like the old-fashioned horse bus, which practically has been crowded aside by the motor omnibus.

BERMUDA.**THE USE OF AUTOMOBILES NOW PROHIBITED BY LAW.**

Consul W. Maxwell Greene, of Hamilton, reports that the act prohibiting the use of all motor cars in the colony of Bermuda, and to be in force indefinitely, passed both houses of the legislature, and on May 11 it received the signature of the governor and therefore became a law.

OCEAN STEAMSHIP SERVICE.**NICARAGUA.****LOCAL BUSINESS MEN LEASE THE GOVERNMENT GUNBOATS.**

Consul José de Olivares, of Managua, makes the following report on a new navigation concern in Nicaragua:

A contract has been entered into between the Nicaraguan Government and a company represented by Gen. Rafael C. Medina, commander of the port of Corinto, and Robert C. Bone, a brother-in-law of President Zelaya, whereby the Government leases for a period of five years to said company the three gunboats comprising the principal part of the Nicaraguan navy. In substance the contract provides that the gunboats Momotombo (355 tons) and Angela (250 tons) are to be disarmed and turned over to said company to be used for passenger and freight traffic between Puntarenas, Costa Rica, and Acajutla, Salvador, said vessels touching at all intermediate ports.

The character of freight to be carried is cattle to Costa Rica and general produce between the various ports. The third vessel, the Once de Julio, a small steamer, it is stated will be used in connection with the company's salt works and general fishing enterprise in the Gulf of Fonseca, where a force of some 400 men will be constantly employed. As a financial consideration it is stipulated that the Nicaraguan Government is to receive half of the profits from the business transacted.

PANAMA.**OCEAN FREIGHT AND PASSENGER TRAFFIC AT THE PORT OF COLON.**

Consul James C. Kellogg, writing from Colon, says that the lack of American merchant vessels is particularly noticed at that Panama port, where, with the exception of a little freight carried by five passenger steamers, all the material and supplies used in the construction of the Isthmian Canal and the Panama Railroad are received in foreign bottoms. The consul continues:

The number of tramps or cargo steamers arriving at this port and at the adjacent American port of Cristobal with cargoes from the United States for the Isthmian Canal and Panama Railroad showed an increase during 1907 of about 12 per cent over the number in 1906, which amounted to 104 vessels, of a total tonnage of 232,409. Of these vessels about 80 per cent were Norwegian and the remainder British, the United States being totally unrepresented. The only American line of steamships connecting this port with the outside world is the Panama Railroad Steamship Line of five steamers, which

arrive and depart from the American port of Cristobal, Canal Zone. This state of affairs can partially be accounted for by the fact that in the United States at the present time very few vessels, steam or sail, are being constructed to carry the products of the United States to foreign countries.

There are eight separate foreign steamship lines plying in the trade of this port, the majority of which schedule weekly sailings, which fact demonstrates the appreciation of and interest taken in the trade of the port by foreign companies and further emphasizes the necessity of an American merchant marine. These foreign steamship lines are as follows:

FRENCH, BRITISH, SPANISH, AND ITALIAN LINES.

Compagnie Generale Transatlantique, French, plying between Havre, in France, and Colon, via West Indies and the Spanish Main, has added two fast and magnificent steamers of 9,950 tons gross, with a speed of 16 knots, crossing the Atlantic in nine days and carrying both passengers and freight, which is steadily showing an increase.

Leyland Line, British, plying between Liverpool, New Orleans, and Colon, via Jamaica, operates steamers of 4,000 to 5,000 tons gross, carrying freight with passenger accommodations.

Royal Mail Steam Packet Company, British, plying between Southampton and Colon via New York, the West Indies, and the Spanish Main, operates magnificent steamers of 5,000 to 5,600 tons gross, with a speed of 15½ knots, carrying passengers and freight. This line has also increased its service and is doing a very profitable business.

Harrison Line, British, plying between Liverpool, New Orleans, and Colon, via Belize, British Honduras, operates steamers of 3,000 to 4,000 tons gross, carrying freight with passenger accommodations.

Compañia Trasatlantica Española, Spanish, plying between Genoa, Barcelona, and Colon, via Cuba, Porto Rico, and the Spanish Main, operates steamers of 5,000 to 6,000 tons gross, carrying passengers and freight. The service on this line is excellent.

La Veloce, Italian, plying between Genoa, Italy, and Colon via the Spanish main and ports of the north coast of South America, operates steamers of 3,000 to 4,000 tons gross, carrying passengers and freight.

AMERICAN LEASED VESSELS—GERMAN LINE.

United Fruit Company, American line of chartered foreign vessels, plying between New Orleans and Colon via Bocas del Toro, Panama, and Port Limon, Costa Rica, operates steamers of 1,500 to 2,500 tons gross, carrying freight, with passenger accommodations. The vessels of this line are all chartered, flying the Norwegian or British flag. The line has increased its service from a bi-monthly to a weekly service, and the business has increased to such an extent that it is said that three large vessels are being built in England to meet the demand of the freight and passenger trade with this port. These new vessels are to fly the British flag. Much of the cold-storage products supplied to the Isthmian Canal Commission is carried by this line and landed at Cristobal.

Hamburg-American, German, plying between New York and Colon via Port Limon, Bocas del Toro, and Jamaica, operates magnificent steamers of 4,700 tons gross, with a speed of 13 knots, carrying passengers and freight. In addition, this concern operates a line between Hamburg and Colon which has recently been increased. The former service has been increased from a bimonthly to a weekly service. The Hamburg-Colon sailings are bimonthly.

There are also a large number of freight steamers arriving at Colon weekly, which supply the Panama Railroad Company and Isthmian Canal Commission with coal and lumber, all flying the Norwegian or British flag.

In Colon there are five docks; three of these belong to the Panama Railroad Company, one to the Royal Mail Steam Packet Company, and one to the Pacific Mail Steamship Company. At the adjoining port of Cristobal, Canal Zone (formerly a part of Colon), there are two large docks built by the Isthmian Canal Commission. At these docks land the Panama Railroad Steamship Line vessels and many freight steamers, which bring cargoes for the Panama Railroad and Isthmian Canal Commission.

LAYING TRADE FOUNDATIONS.

While Germany and England are increasing their merchant marine, their trade with the Latin Americas is also increasing. Both countries are building up a permanent trade which, by the time the Isthmian Canal is completed, will be of very large proportions. Even at the present time they are reaping the benefits accruing from the increased traffic caused by the construction of the canal.

So far, very little attempt is being made by the merchants of the United States to secure a part of this foreign traffic, which amounts annually to millions of dollars. They are reaching out for foreign trade and commerce, but without a merchant marine with which to increase their transportation facilities, to advertise their wares and products, and to place themselves in a position where they will be able to compete with the freight rates of foreign steamship companies. It behooves them to begin at once the construction of a merchant marine, so that when the Isthmian Canal is completed they will be well equipped to enter the race for commercial supremacy.

[Photographs of steamships of all the foregoing transportation lines forwarded by the consul may be seen at the Bureau of Manufactures.]

CHILE.

IMPROVED SERVICE ON WEST COAST OF SOUTH AMERICA.

Consul Rea Hanna reports from Iquique that it is stated that the Compañia Sud-Americana de Vapores, and the Pacific Steam Navigation Company have decided to run weekly boats from Valparaiso to Panama on a twelve-day schedule, the two lines to alternate, details of which follow:

Stops will be made in Valparaiso, Coquimbo, Antofagasta, Iquique, Mollendo, Callao, Payta, and Panama. Arrangements are being made with the steamship lines at Colon for direct connections so that the run from Valparaiso to New York will occupy only 17 days, avoiding the usual wait in Panama.

It is expected that this will bring a great part of the traffic from Buenos Aires and the adjacent East Coast over the Andes via Valparaiso to New York, as it will be a quicker trip than on the direct lines.

The distribution of freight will be made by short-run steamers from the centers mentioned. The Pacific Steam Navigation Company is expected to run a freight boat from Guayaquil to Panama, as the liners will stop only at the mouth of the river and just long enough to receive and discharge passengers.

VENEZUELA.

NEW LINE TO BRAZILIAN PORTS WITH EXCLUSIVE PRIVILEGES.

Minister William W. Russell writes from Caracas that a new steamship line is to be established between Venezuelan ports and the Brazilian ports of Belen de Para and Manaos, adding:

For this purpose a contract has been celebrated between the Venezuelan Government and two Brazilians of Manaos. As a protec-

tion to the enterprise the Venezuelan Government grants the concessionaires the exclusive privilege of shipping cattle from any of the ports of Venezuela to the ports of Belen de Para and Manaos. The duration of the contract is two years and in the first six months the concessionaires bind themselves to make at least one trip per month.

ITALY.

DIRECT LINE TO PHILADELPHIA WILL FACILITATE TRAVEL AND COMMERCE.

Consul D. R. Birch, writing under date of March 28 from Genoa, says that the inauguration that week of a freight and passenger steamship service between Italy and Philadelphia brings the latter city in direct touch with Genoa and Naples for the first time in the history of Italian-American commerce. The consul's details follow:

Three sister ships will be put into this service by the company, which up to now has confined its business to the trade between Italy and the River Plata. The three steamers will be entirely new and representative of the latest type of steerage-passenger and cargo boats. Their respective gross tonnage is 8,500.

The first ship started from Genoa on her maiden voyage March 26. It was constructed at Belfast, Ireland. The other two ships will be in readiness for their initial voyages during the month of May, one of them being constructed at Belfast, the other at Glasgow, Scotland. Each of these vessels is equipped with 16 first-class cabins, each accommodating four adults, and with 2,470 berths for steerage passengers. They are capable of maintaining an average speed of 17 knots an hour, but during navigation will be run at about 14 or 15 knots an hour, employing less than twelve days from Naples to New York, and fourteen days from Genoa, the home port of the new line.

TRADE BETWEEN GENOA AND PHILADELPHIA.

Up to the present time the commercial intercourse between this section of Italy and Philadelphia has been spasmodic and of small proportions. The value of the products of this section consigned to Philadelphia houses last year was only \$11,440, but it is believed that much of the cargo declared for entry at New York is in reality intended for Philadelphia, and it is one of the chief purposes of the new line to capture this trade. Figures show that the increase in the value of the 1907 imports and exports of Philadelphia was about \$25,000,000 over the business of the previous year. The volume of Philadelphia's 1907 external trade was over \$150,000,000. These figures have impressed the promoters of the new service with the necessity of endeavoring to secure a portion of this trade.

Although the new line starts at a bad season for emigrant traffic, as, owing to the present industrial crisis in the United States, the movement of Italian laborers toward North America is at a standstill, the first ship is taking 61 steerage passengers from Genoa.

Philadelphia is the only one of the first five United States ports not previously connected with Italy by direct steamship service. It is expected at the Genoa office of the company that Philadelphia exporters to Italy will make direct shipments by the new line, instead of first sending their goods to New York as formerly.

NEW FAST SERVICE TO NEW YORK.

Vice-Consul W. Bayard Cutting, jr., writing under date of March 21, from Milan, tells of another new steamship service between Italy and the United States:

The Lloyd Sabaudo line of steamships announce the first trans-Atlantic trip from Genoa of the steamship Principe di Udine for May 19. This is the fastest ship of the Italian merchant marine, constructed in the most approved style and fitted with all modern comforts. It is advertised to make the voyage from Genoa to New York, including a call at Naples, in the short time of eleven days.

THE NETHERLANDS.

REAPPEARANCE OF OCEAN SAILING VESSELS—IMPROVED SERVICE.

Consul-General S. Listoe makes the following report from Rotterdam on the renewed activity of sailing vessels for ocean freight, and on a new steamship line between New York and Europe:

The assertion has been made that within the past five years sailing vessels have come in vogue again, after having been practically banished from the ocean for many years by the quicker and in many respects more easily controllable steamships. It is claimed that for long distances, when time of delivery is of no particular consequence, heavy cargoes can be transported much cheaper by sail than by steam.

As a curious confirmation of the assertion it may be stated that during the latter part of April two sailing vessels—four-masted barks, each of 2,500 registered tons—left this port for San Francisco, each carrying a cargo of 2,000 tons of German cokes and 500 tons of cliffstone and cement. One more bark took on cargo and two others were chartered for San Francisco, all for the purpose of carrying cokes, cliffstone, and cement.

A NEW NEW YORK TO CONTINENT STEAMSHIP LINE.

A new steamship line called the New York and Continental Line has lately commenced to carry passengers between Rotterdam and New York. The company owning this line has its headquarters in London, and its vessels sail under the British flag. There are three steamships of 3,484, 5,026, and 5,026 registered tons, respectively. They are calculated to carry each about 80 cabin and 1,450 steerage passengers and will leave fortnightly from Hamburg, where they will take on cargo only. Thence the steamers will proceed to Rotterdam, where passengers will be embarked, and from there continue on their way to New York, touching at Halifax, Nova Scotia, for the purpose of landing possible passengers for Canadian territory.

The New York and Continental Company has at present three new 14-knot steamers building in England, and when these are finished it hopes to take its share of the ocean carrying traffic.

Passengers for the United States, embarking at this port—as well as their baggage—are inspected by a consular officer. Including this line, there are now four regular steamship lines carrying passengers from Rotterdam to New York.

SIAM.**NEW LINE TO PLY BETWEEN BANGKOK, SINGAPORE, AND CHINA.**

Consul-General John Van A. MacMurray reports that a new steamship company is being formed in Bangkok to enter the trade between Bangkok and Singapore and Chinese ports, the details being as follows:

The new company is composed entirely of Chinese and Siamese; it is now contemplated that no stock will be sold to Europeans. It is to be a limited liability company, with a capital of 3,000,000 ticals (\$1,095,000), to be raised by the sale of shares at 10 ticals (\$3.65) each. Approximately a third of the shares are now reported to have been sold. It is hoped to increase the capital to 5,000,000 ticals (\$1,825,000) within the year.

The promoters [addresses on record at Bureau of Manufactures] have already chartered six Norwegian steamers whose charters with the North German Lloyd expire July 1. These steamers (which are all of approximately 2,000 tons), and two more which the company is seeking to charter in England, will be used with their present European officers until the company secures its own steamers. It is rumored that the company has succeeded in arranging for the purchase of four vessels now under construction and almost completed.

The new company has the support of practically all the fifty or sixty Chinese and Siamese rice mills in Bangkok; each of them has contracted to ship, if requested, as much as 800 piculs (47 tons) of rice per month, in order that there may be, for each outward voyage, a cargo of 30,000 piculs (about 180 tons) if carrying passengers, or of 40,000 piculs (about 240 tons) if not carrying passengers. If adhered to, this agreement would put into the hands of the new company the carrying of almost one-third of the rice export of Siam.

Of the six steamers already arranged for, two will be put upon a schedule of weekly sailings to and from Singapore, and will probably apply for the Siamese mail contract; the other four will make weekly sailings to and from Hongkong and Swatow or Hongkong and Hoihow.

JAVA.**COMBINATION OF NETHERLANDS TRANSPORT LINES.**

Consul B. S. Rairden, in forwarding from Batavia a copy of the prospectus of the new Dutch steamship combination, says:

A combination has recently been formed between the Stoomvaart Maatschappij Nederland, Rotterdamsche Lloyds, and Koninklijke Paketvaart Maatschappij, under the name of Naamlooze Venootschap Nederlandsche Scheepvaart Unie (Netherlands Shipping Union, Limited).

The Stoomvaart Maatschappij Nederland of Amsterdam was established in 1870 under Government subsidy and runs a fortnightly mail service between Amsterdam and Java, passengers and mails embarking and landing at Genoa. This company has a fleet of eight passenger steamers of modern construction and a number of freight boats, representing about 80,000 tons.

The Rotterdamsche Lloyds of Rotterdam was established in 1883 under Government subsidy and runs a fortnightly mail service between Rotterdam and Java, passengers and mails embarking and landing at Marseille. This company has a fleet of eight passenger steamers, seven of which are of modern construction, and a number of freight boats, representing about 65,000 tons.

The Koninklijke Paketvaart Maatschappij of Batavia was formed in Amsterdam in 1890 under Government subsidy and has a fleet of forty-two steamers, representing about 67,000 tons, with eight now building of about 2,000 tons each. These steamers trade between different ports in this archipelago, carrying cargo and passengers.

The Koninklijke Paketvaart Maatschappij has the monopoly of the coasting trade, such trade being confined to ships under the Dutch flag.

The Netherlands Shipping Union (Limited) has a capital of \$100,000 4 per cent preferential shares, of which \$60,000 is already subscribed for, and \$6,000,000 common shares, of which \$1,200,000 is already subscribed for.

MOROCCO.

ESTABLISHMENT OF A DIRECT FORTNIGHTLY LINE WITH LONDON.

Consul-General Hoffman Philip reports from Tangier under date of April 11 the following additional transportation facilities between Morocco and Great Britain:

It has lately been announced that the Power Steamship Company, Ltd., of London, England, has established a fortnight steamship service between London and Moroccan ports. In accordance therewith, the Penhurst, of 1,200 tons, arrived in Tangier on April 9, 1908, and sailed thence for Mogador, from which southerly port the return trip to London will be made.

Calls will be made at the principal coast ports for cargo destined for London, on the return voyage. Passengers will also be carried. One of the principal advantages of the new service, it is understood, will lie in the fact that this line will be maintained between London and the Moroccan ports only, whereas that of the other regular British service, the Mersey Steamship Company, includes the Canary Islands and Madeira in its itinerary.

AUSTRALIA.

DIRECT STEAMSHIP SERVICE BETWEEN SAN FRANCISCO AND SYDNEY.

Vice-Consul Charles E. Parkhouse, of Apia, Samoa, reports that arrangements have been completed for a resumption of steamship service between the United States and Australia, which will touch at Samoa. Mr. Parkhouse writes:

An inspector of the Weir Line of steamships informs me that his company will run a four-weekly service each way between San Francisco and Sydney, calling at Apia and Tonga and at Auckland, New Zealand. This should give great impetus to trade between the United States and Samoa, besides helping American trade with the naval station at Tutuila and also with the Tonga Islands. At present

the only regular communication with the outside world enjoyed by Samoa is by two vessels of the Union Steamship Company of New Zealand, which make round trips every four weeks, sailing from Auckland and Sydney, calling at Fiji, Samoa, and Tonga.

Freight rates from San Francisco to Samoa will, I am told, average \$10 per ton of 40 cubic feet, exclusive of landing charges, which will be probably about \$1 more. The Union Steamship Company's present rate from both Auckland and Sydney is £2, or \$9.73, per ton, inclusive of landing charges.

WATERWAYS AND HARBORS.

FRANCE.

NEW FREIGHT SERVICE BETWEEN BORDEAUX AND CETTE.

From Bordeaux Consul D. I. Murphy reports that there has just been inaugurated by the Compagnie Fluviales de France a new freight service between Bordeaux and Cette by way of Garonne and the Lateral and Midi canals. He adds:

The first boat of the line, named the Bordeaux, is of 150 tons capacity, 70 horsepower engine, two paddle wheels at the extreme end of each side of the stern. A sister boat, named Cote d'Argent, is now being constructed and will be put on the line in a few weeks.

The establishment of this new service appears to be a practical outcome of the National Congress of Navigation held during the International Maritime Exposition at Bordeaux, at which there was considerable discussion regarding the lack of freight communication between Bordeaux and points along the canals.

The line goes by the Garonne River as far as Castets, where it takes the Lateral Canal to Toulouse, thence by the Midi Canal to Cette. Along the route are many important places, Agen and Toulouse being the most considerable.

The move is more especially noticeable at this time as it would seem to indicate a postponement of the work of widening and deepening these canals for the proposed Canal Entre Deux Mers, which would permit the passage of large vessels from the Mediterranean to the Atlantic. It is understood in Bordeaux that the present canals are simply to be repaired and put in good condition for small craft.

UNITED KINGDOM.

BILL PROVIDING FOR THE IMPERIAL MANAGEMENT OF THE LONDON DOCKS.

Consul-General Robert J. Wynne furnishes the following information concerning the impending change from private to Imperial management of the docks of the port of London:

So much money is required to bring the London dock facilities up to date that the three private corporations controlling the existing dock system have agreed to turn over their interests to the board of trade, and to accept compensation in Government stock when the dock bill becomes a law. Then a general and comprehensive plan of improvement costing about \$5,000,000 is to be inaugurated to meet the sharp rivalry of certain Continental ports. The bill now before Parliament contains fifty-two clauses and seven schedules. It

provides for the setting up of a new body, to be known as the Port of London Authority, consisting of fourteen elected and ten appointed members.

The proposed rates on goods will not be restricted to imports. As fixed by the Board of Trade, they will be payable, subject to any exemptions or rebates on "all goods imported from parts beyond the seas or coastwise into the port of London, or exported to parts beyond the seas or coastwise." The dock dues of 37 cents per ton now levied by the London and India Company are to apply to all the docks vested in the port authority, but not to vessels merely passing along the Surrey canal.

Existing city officers of the dock companies, the Thames Conservancy, and the Waterman's Company are to be transferred to the port authority, and to hold office on previous terms, including conditions of pension. Where the office or situation is abolished there is provision for compensation, and any officer or servant dispensed with within five years, except for misconduct, is to be deemed to have suffered loss.

[A copy of the bill now before the British Parliament for the transfer of the port to Imperial management is on file in the Bureau of Manufactures.]

SPAIN.

MACHINERY REQUIRED FOR CANALIZATION OF THE GUADALQUIVER.

Referring to a former report on the subject of irrigation in Andalusia, Consul Louis J. Rosenberg, of Seville, furnishes the following information concerning the further prosecution of this Spanish undertaking:

There is no longer the slightest doubt that the cut at Tablada will be accomplished. There is also every assurance that the project of the canalization of the river will be realized. The cut at Tablada is to open a direct communication between the river, where the wharves are, with the central curve of "Puerto Parra." The total length is 5,864.50 meters (1 meter=1.09 yards), and of a depth varying between 13 and 16 meters, and a width at low tide of 80 to 100 meters. The cut will facilitate navigation along the Guadalquivir, allowing ships of large draft and tonnage to enter and clear.

One syndicate of local landowners has already been formed and the Government has appropriated about \$170,000 to commence the work of canalization. The Government will make further appropriations as the work progresses, and more syndicates will be formed later. The present syndicate is to begin on the first 20,000 hectares (1 hectare=2.471 acres). The total boundary of the canal is to be 100,000 hectares. The harbor board expects to make several harbor improvements in the near future.

Considerable machinery will certainly be needed for the canalization of the river, which is a most important undertaking, and also for the various harbor improvements that the harbor board intends to make. It would seem, therefore, that it would be worth while for properly equipped American firms to study the situation here.

American firms desiring to take part in any tender should have proper agents on the ground to represent them. Contracts can not be obtained by correspondence.

CHINA.

PLANS FOR THE EXTENSIVE DREDGING OF THE GRAND CANAL.

Consul-General James W. Ragsdale makes the following report from Tientsin on the dredging and improvement of the Grand Canal of China:

The viceroy of Chihli has memorialized the Throne to the effect that he has received a communication from the board of posts and communications in connection with the proposed dredging of the Grand Canal from Chihli through Shantung to Kiangsu. This is to be done with a view to running steamboats and launches for facilitating communication, and also for the conveying of the mails of the Imperial Chinese post-offices in North China:

The viceroy states that the canal is divided into two parts, viz, Peiyunho and Nanyunho, or North and South canals, which extend about 240 miles. Formerly about 300,000 taels (tael=about 70 cents) were spent every year for the repairing of this canal, which was largely used for transporting the tribute rice from South China to Peking, and even now about 60,000 taels are required for this purpose annually.

As the canal is an important inland waterway connecting South and North China, it will be much better, the viceroy points out, to spend a certain sum of money to dredge it properly, so as to last for many years without yearly repairs. The cost will be borne by the provincial treasuries of Chihli and Shantung if imperial sanction is received.

All the leading Chinese merchants are in favor of the proposed work of dredging of the canal and the building of proper embankments along both banks. It is proposed to do the work with foreign dredgers and the cost is estimated at 600,000 taels. It is now reported that the proposition has been sanctioned by the Government.

OIL FUEL FOR SHIPS.

BRITISH NAVY ADAPTING VESSELS TO THE NEW POWER BASIS.

Consul John L. Griffiths makes the following report from Liverpool on the extending utilization of petroleum for ship propulsion:

The use of oil as fuel has engaged the attention of the British Admiralty for some time, and it has recently been decided to establish oil storage tanks in various parts of the United Kingdom to insure convenient sources of supply. Birkenhead, directly opposite Liverpool, has been selected as one of the supply centers. The experiments conducted by the Admiralty during the past twelve years were not at first satisfactory, and two adverse reports were made prior to 1902. Since then the tests have been of such a character as to reverse the original judgment of the Admiralty, and it may now be said that the importance of oil fuel is recognized by that body, and that its use will be extended in the future as rapidly as possible.

It is claimed that through the use of oil the number of men now required to do the stoking and trimming would be reduced by two-thirds, as the moving and stoking of the oil is automatically accomplished by steam pumps and pipes, instead of by stokers and

trimmers as in the case of coal. While it is difficult with coal fires at full speed to maintain sufficient steam, it has been demonstrated that with oil fuel this difficulty would be overcome, and that when the speed is reduced the boilers are under such perfect control that the safety valves do not lift.

ADVANTAGES OF OIL OVER COAL.

The oil, it is suggested, could be stored in the double bottom, now taken up by water ballast. In the case of the navy, one of the great advantages claimed for oil is the absence of a great volume of black smoke when vessels are proceeding at great speed, and which serves to give information to the enemy. The evaporative value of oil is much greater than that of coal, so that while 45 cubic feet of bunker space is required for a ton of coal, only 38 cubic feet is needed for a ton of oil. It will readily be seen how significant this difference would be to the great ocean-going steamers, and how much space now set apart in them for the storage of coal would be released for cargo purposes and the accommodation of passengers.

The British navy has in service oil-using torpedo boats with a capacity of 34 knots. One of the drawbacks at the present time to the extensive use of oil fuel at sea is the high cost and the difficulty in many instances of securing it. The cost of oil in Great Britain has no doubt seriously interfered with its adoption for steamships and for a variety of industrial purposes. With a reduction in price the field for its employment would be greatly enlarged. The advantages of oil fuel briefly summarized are economy of space, absence of soot and cinders, elimination of the loss of time consumed in burning down and cleaning fires when coal is used, the ease with which oil can be bunkered, and the quickness with which a full head of steam can be generated.

AMERICAN SHIPPING RATES.

AUSTRALIA.

LACK OF NET COST KNOWLEDGE HURTS AMERICAN TRADE.

Consular Agent Asbury Caldwell, of Brisbane, advises that a serious handicap to American trade in that Australian port is the impossibility of ascertaining the freight charges from New York City. As an illustration he cites the following case:

An indent merchant tells me that he has communicated with every one of the four agencies for New York steamers in this city, requesting the rate on a saw milling plant in order that he may be able to quote a price c. i. f. and e. (costs, insurance, freight, and exchange) Brisbane. Although it is possible for him to secure such rates from Great Britain and from Germany, each of these agents have stated that there are no regular rates from New York City, and that they can not supply even an approximate rate, giving a range of from \$5 to \$12.50 per ton.

It will readily be seen that the Australian importer of American goods must quote, allowing for the higher freight rate, in order to be on the safe side, and that a very small difference in such bids often loses a contract for him, to be given either to the German or British market, which could be saved for the American trade.

GERMANY.

RATES, WEIGHTS, ETC., SHOULD BE THOSE OF COUNTRY OF DESTINATION.

Deputy Consul-General Ulysses J. Bywater, writing from Dresden, calls the attention of American manufacturers desirous of extending their foreign trade to the necessity of giving prices, weights, and measurements in the units of the country in question. He uses the following illustration in that German district:

A very attractive list has been received at this consulate-general from an American bed-manufacturing firm, with descriptions in German and prices in marks, but measurements are given as "cubic measurements 67 x 59 x 36," etc., and "weight 780 pounds." These measurements are totally unknown to the majority of dealers, and the weights given are misleading, as there is a difference in the American and German pound, so that this list is practically useless. Another mistake generally made is that of giving prices as f. o. b. Cincinnati, or any other inland city, instead of f. o. b. New York, etc., or, better still, prices should be quoted c. i. f. Bremen or Hamburg, as the intending purchaser can then correctly calculate the freight.

INTERNATIONAL TRAVELING BUREAU.

NEW CENTRAL ORGANIZATION IN BERLIN FOR SUPPLYING INFORMATION.

Consul William Bardel, of Bamberg, furnishes the following account of a new enterprise in Berlin for furnishing data on traveling:

Under the guidance of a number of traffic organizations, among which are the German, the Dutch, and the Swiss State railroad administrations, there is to be established at Berlin in the near future and on an extensive scale a traveling bureau under the name of Internationales Oeffentliches Verkehrs Bureau (International Public Bureau for Traffic and Travel).

The purpose of this new bureau is to offer the public information, free of charge, upon either verbal or written inquiries on all questions pertaining to travel and traffic. The activity of this bureau is to extend not only all over the German Empire, but inquiries from the world at large are to be promptly answered. The management of the new bureau will be under the care of the head of the largest now existing traveling bureau. A staff of expert officials, some of them State functionaries of the countries interested in the new bureau, will serve under his management. Thus, Bavaria, Saxony, Switzerland, etc., will each delegate to the bureau an official, who not only is to be well versed in all matters pertaining to traveling, but also familiar with his home country. This offers a guarantee that exact and reliable information will be furnished.

The sphere of action of the already existing traveling bureaus is not to be curtailed in any way by the International Bureau, but, on the contrary, the latter is to act in a supplementary, possibly facilitating manner to the old-established traveling bureaus.

The new bureau is to offer the public the opportunity to obtain information whenever they may have a yet uncertain desire to undertake a trip; they can ask months ahead for advice in the matter of destination and time for a journey; also on the subject of suitable

hotels and on sanitary matters. On the other hand, after, by the aid of the International Bureau, their plan for traveling is completed, the traveling bureau is to be applied to for tickets, correct time tables, etc., since the new bureau is to have nothing whatever to do with such matters.

TRANSPORTATION IN CHINA.

BY COOLIES, PACK MULES, DONKEYS, PEKING CARTS, AND MULE LITTERS.

The following information regarding the means of transportation in the interior of China is furnished by Consul Wilbur T. Gracey, of Tsingtau:

Exporters should take into consideration that goods intended for China, if transported from any of the outports or shipping cities, must take one of the following methods, and packages should be prepared accordingly. For the Yangtze River district the overland traffic is greatly supplemented by river transportation, as is also the case in other parts of the Chinese Empire, but all goods imported into China must ultimately come down to one of the modes of transport explained herein.

BURDEN-CARRYING COOLIES.

This is the greatest means of transportation throughout the Empire. A bamboo or wooden pole is slung across the shoulders with a burden attached to each end, or a long pole goes to the shoulders of two coolies, or more, with the parcel hanging halfway between the two. In southern China this is the only means of transport. The climate being hotter in southern China, and the coolies having less strength, not quite so large a load will be carried as in northern China, nor will the distance covered in a day be so great.

A Shantung coolie, carrying a load suspended from the two ends of a pole slung over his shoulder, can carry about 80 catties (106 pounds) or 40 catties (53 pounds) at each end. Packages should be so made that they will, as nearly as possible, approximate this weight. A coolie with a load of 106 pounds can travel about 80 li (27 miles) per day, and costs in Shantung Province approximately 50 cents Mexican (22 cents gold) per day.

Two coolies will carry a load suspended in the middle of a pole slung between them, weighing 160 pounds. They will carry such a package a distance of about 28 miles per day, and cost 22 cents gold per day each. The cost per pound per mile for transportation by this method is, therefore, about the same as when carried singly, but a larger package can be carried.

The best size package for one coolie is about that of a case of kerosene oil, or, say, 12 by 14 by 18 inches. A square or oblong package is usually preferable to any other shape for transportation in China.

TRANSPORTATION BY WHEELBARROWS.

A Chinese wheelbarrow is so arranged that the wheel (which is about 3 feet in diameter) is in the exact center of the barrow, protected by a rough wooden crate, making it necessary to place packages on the two outriders on either side of the crate. Certain sizes of packages are much more adaptable to transportation on these barrows,

and one of the most convenient is the cases in which two tins of kerosene oil are packed. Six of these cases can be packed on either side of a barrow, making twelve cases in all.

A Shantung one-man barrow will carry a load, over the usual Chinese country roads, weighing from 266 to 333 pounds. He can travel with such a load over the average roads in the dry season about 27 miles per day, and costs from 31 cents to 37 cents gold per day. In rainy weather the distance will be somewhat less.

Two men with a wheelbarrow will carry a load of from 533 to 666 pounds. They can travel with this load about 27 miles a day, and cost from 28 cents to 33 cents gold each. Two men with a wheelbarrow to which a small donkey is attached will carry a load of from 800 to 933 pounds and will travel about 27 miles a day.

PACK MULES, DONKEYS, AND PEKING CARTS.

A large pack mule can carry a load of from 400 to 466 pounds. It can travel about 33 miles a day and costs 33 cents gold a day. A donkey with a pack can carry a load of from 266 to 333 pounds, can travel about 33 miles a day, and costs 28 cents gold per day.

A large Peking cart with one large mule can carry a load of from 533 to 666 pounds, and can travel with such a load 33 miles per day, at a cost of 75 cents gold per day.

A cart with two large mules can carry a load of from 1,200 to 1,333 pounds, and will travel 40 miles, at a cost of from 83 cents to \$1.40 gold per day. A cart with three large mules can carry a load of from 1,333 to 1,860 pounds, and can travel 40 miles, at a cost of from \$1.40 to \$1.86 gold per day.

A cart with four large mules will carry a load of from 2,000 to 2,666 pounds, and will travel 40 miles a day, at a cost of from \$1.86 to \$2.33 gold per day.

Mule litters are also used to a considerable extent throughout Shantung, but practically never carry cargo, except such luggage as may be accompanying their passenger. They will carry one or two passengers, or three on occasions, and can travel about 40 miles a day, at a cost of from \$1.40 to \$1.86 gold per day.

FOODSTUFFS.

MARKETS FOR COMESTIBLES.

ITALY.

GROWING DEMAND FOR AMERICAN LARD, SAUSAGES, AND FISH PRODUCTS.

Consul James E. Dunning, of Milan, forwards the following report, made by Clerk Siersdorfer of the consulate on the lard, sausage, and prepared fish product trade in Italy:

The Italian demand for lard, sausages, mackerel, herrings, and canned and barreled sardines is constantly increasing. Imports from the United States have doubled in recent years and an even more rapid increase is predicted for the future. An important local dealer stated to the consulate that he could easily do a \$200,000 annual business with the American lines mentioned.

All the lard imported into Italy comes from the United States. No other country attempts to export it, and native manufacturers can not turn out lard to compete with that from America in price or quality in their own market. Thus, as far as lard is concerned, the American manufacturer has a perfectly clear way in Italy. The increase of exports from the United States is entirely due to the change in attitude of the Italian public toward the American lard. Up to a few years ago lard manufactured in the United States was thought to be prepared only to sell and that purity was disregarded by the American manufacturers. This feeling does not exist now, and the opportunity for American lard in Italy is rapidly extending.

SAUSAGE AND FISH GOODS.

In regard to sausages, mackerel, herrings, and canned and barreled sardines, there is undoubtedly a good field for American stock, as the Italian demand is constantly increasing, and the largest part of it continues to be furnished by imported supplies on account of the inability of native firms to compete. The bulk of the sausage imported comes from the United States and Servia, the larger quantity from the latter. American manufacturers could increase these exports by more exploitation.

Italy's mackerel imports are large and steadily increasing, coming from the United States, England, Norway, France, and Canada, the largest quantity coming from England. Practically no mackerel is exported from Italy.

At present all the herrings sold in Italy are imported from England. This is an important part of the trade for the American manufacturer to study.

All the canned and barreled sardines imported come from Spain, Portugal, and France, the largest amount coming from the first named. Italy has exported small quantities of sardines prepared in oil, but these exports are rapidly decreasing. Imports of dried

sardines are falling off rapidly, the canned sardines being preferred. There seems to be a good opportunity for the American manufacturer to introduce standard quality canned sardines prepared in oil, in which a profitable business could undoubtedly be done.

A small amount of fresh fish is imported into Italy, whereas a comparatively large amount of salted fish is imported, coming from England, southern European countries, and the northern coast of Africa. Spain is Italy's largest supply source of this kind of fish. These imports show a falling off in recent years, which is due to the progress and growth of late of Italian fisheries.

THE WAY TO EXPLOIT.

Evidently the most profitable way for the American firm to exploit these goods on the Italian market is to send a thoroughly experienced traveling salesman to Italy, familiar with Italian or French. The salesman should "drum up" well the wholesalers in the principal cities of Italy. The salesman should come once or twice a year, which will enable him to keep in close touch with the trade. If necessary the traveler should visit the retail dealers with some one attached to the wholesaler's establishment and show him the American way of "drumming up" the retail trade. It should be explained to the jobber that he will receive the usual percentage on the orders booked in this way, which will help to enthruse him. If the traveler notices that the goods stay on the shop shelves longer than necessary he can dispose of the jobber's man, telling him what he intends to do, and get a list of the shop's customers, take some one from the shop with him and visit each customer, thus doing house-to-house canvassing. Samples should be shown and it would be a good idea for the salesman to distribute small "catchy" advertisement articles. It should be explained to the shopkeeper that he will receive the usual percentage on all orders booked in this way, which will undoubtedly have the same effect on him as on the jobber.

While selling the goods in this way the salesman can get at the "ins and outs" of the trade which he or the firm that he represents would never have become acquainted with if they had intrusted everything to the jobber and shopkeeper. The salesman will always be able to advise the jobber what qualities of goods to buy for certain districts of the city. After this system is thoroughly carried out and is repeated once or twice a year and profit is made, the jobber can be well supplied with advertising matter, which the salesman can see is distributed to all the shops in each city. Later a large amount of advertising can be done by the firm.

LISTS OF DEALERS—TARIFF RATES.

If the American firm can not conveniently send a salesman to Italy the parties whose names and addresses are given in the list accompanying this report should be written to and be sent catalogues, price lists, etc. [The list includes dealers in Milan, Genoa, Rome, Naples, Palermo, Florence, and Turin, and may be secured from the Bureau of Manufactures.] These parties are willing to import American lines as mentioned in this report. Business can be done in this way, but American firms are urged to send a salesman, as the field seems important enough to repay this extra expense in the long run. One large American manufacturer recently attempted the above-explained

system of placing stock in Italy, and is at present reaping good profit in the Italian market.

Lard pays \$1.93 per 220 pounds duty, entering Italy. Sausages pay \$4.83 per 220 pounds duty, entering.

Fish products pay the following duties entering Italy, per quintal or 220 pounds:

Article.	Per quintal.
Smoked and dried fish.....	\$0.97
Salted fish.....	1.16
Pickled fish or fish prepared in oil, in cans, excluding sardines and anchovies.....	4.83
Canned sardines and anchovies, in oil and pickled.....	2.90
Canned sardines and anchovies, prepared in other ways.....	5.79
Pickled fish, in oil, in barrels, excluding horse mackerel, sardines. and anchovies.....	4.83

UNITED KINGDOM.

DECLINE IN SHIPMENTS OF CANNED FRUIT FROM THE UNITED STATES.

Consul John L. Griffiths, of Liverpool, in reporting that there has been a decided falling off in the importation of canned fruits from the United States into England during the last two years, gives the following particulars:

The shipment of apricots, pears, and peaches in 1906, for example, aggregated 273,000 cases, while in 1907 only 161,000 cases were imported. This great deficiency naturally increased prices and lessened the demand. The unfavorable weather conditions for fruit growing in the United States in 1907 partially accounted for the decreased shipments. As the importation of apricots and peaches from the United States declined, there was a proportionate increase in the shipments from Spain and Portugal, where the fruit was of excellent quality. No pears, however, are shipped from these last-named countries to England.

During the past four years the prices of California canned fruit have advanced about 25 per cent. This has resulted in the extension of the fruit trade between England and Spain and Italy, which countries have the advantage of the United States in the item of cheap labor.

ITALIAN TOMATOES SUPPLANTING AMERICAN.

Tomatoes are imported in increasing quantities each year from Italy. The quality of these tomatoes is stated to be good and the prices low. Large quantities of canned tomatoes are also shipped now each season from Italy to the eastern part of the United States, and the American shipments to this market are much smaller than formerly. It is suggested by one of the leading importers in Liverpool that the American tomatoes are frequently packed before they are fully ripe, and that this practice renders them undesirable for use. The Italian tomatoes are carefully selected, and are only packed after they have attained a ripe and rich color. If the American packers desire to increase their shipments of tomatoes to this country, they must exercise the greatest care in their selection and preparation for the English market.

Canned apples are being imported in increased quantities from Canada and are sold at successfully competitive prices with American apples. California apples packed in cases seem to improve each

year, and the English demand for them is increasing, owing to the fine condition of the fruit and the excellent manner of packing. Last year the sale of California apples in this country exceeded the sales of any previous year, and the testimony of all the fruit importers in Liverpool is that these apples are almost invariably fairly and properly graded, that the smaller apples are packed separately, and that the cases are so branded that the markings indicate the quality of the fruit. There is no doubt that if greater care were shown in the selection, grading, and packing of American fruits there would be a gratifying increase in the English demand.

BELGIUM.

LARGE IMPORTATIONS OF EGGS—SHIPMENTS TO OTHER COUNTRIES.

From statistics just published Consul W. P. Atwell, of Ghent, states that the total number of eggs imported into Belgium during the year 1907 was 219,000,000, particulars of which follow:

The greater quantity of eggs came from Italy. Through strenuous efforts on the part of native poultry raisers the imports from Italy have now considerably decreased. During the first two months of 1906 Italy exported to Belgium 6,060,000 eggs, while in 1907 these figures decreased to 4,144,000, to fall in 1908 to 3,890,000. Germany held second position, as regards the years 1906-7, but in the first two months of 1908 a complete change took place, Holland taking second place, with a total of 2,174,746 eggs, against 1,984,000 the same period of the previous year.

During the month of February, 1908, alone the total number of eggs imported from Holland was 1,685,000, while statistics for Germany only show 205,000. During the same month Italy exported to Belgium a total of 1,702,000 eggs. Other countries exporting eggs in less quantities to Belgium were Russia, Austria-Hungary, and Bulgaria. The importations from the last named are increasing from year to year.

Statistics pertaining to the exportation of eggs from Belgium, considered of native production, show that the total number exported during the year 1907 was 129,296,000, the principal importing countries being France and England. During the first two months of 1908 the total number exported from Belgium to France was 13,156,000, while the number sent to England during the same period was 5,152,000.

SPAIN.

IMPORTS AND EXTENSIVE CONSUMPTION OF CHICK-PEAS.

Consul-General Benjamin H. Ridgely, of Barcelona, furnishes the following information concerning the leading place occupied by the chick-pea as a foodstuff of the Spanish people:

Chick-peas enter into the daily dietary of nearly every household in Spain, forming as they do the chief ingredient in the Spanish national dish "cocido," also known as "olla podrida" and "puchero." It is the delight of the rich, as well as of the poor in Spain; in short, next to bread, it is the staff of life. It is not, therefore, surprising

that Spain is the principal country in which chick-peas are produced and consumed; but what is not generally known is that, in spite of the favorable climate and suitable soil, the home production does not quite half supply the consumption. This is said to be due to the fact that the cultivation of chick-peas is rather difficult and is very little understood by the majority of Spanish farmers. During the last three years there has been a decrease in production, made up by an increase in importation, through which many mercantile houses have been great gainers.

Mexican chick-peas, which most resemble the Spanish product, have been consumed in surprising quantities in this district during the last few years, and they have even been bought for sowing purposes.

In the 10 Castilian provinces (without including Logrono, where there is no cultivation) 143,992 acres of land, irrigated and non-irrigated, were sown to chick-peas in 1907.

SWEDEN.

MEAT IMPORTS AT GOTHENBURG—OBJECTIONABLE CHEMICALS.

Consul W. Henry Robertson quotes, for the information of American exporters of meat, a part of an article published in a Swedish paper about the import and consumption of meat in Gothenburg during the year 1907. He quotes a statement concerning the import of meat as follows:

Of salted meat of neat cattle, 763 barrels were imported, chiefly from America; of salted mutton, 589 barrels, chiefly from America and Iceland; and of salted horse meat, 46 barrels, chiefly from Denmark and England. Besides the above mentioned there arrived also 11 barrels of horse meat from elsewhere in Europe preserved with acetates, and 10 barrels of American mutton preserved with boric acid, and these lots of meat were, in accordance with the poison law, refused entry and had to be reexported, as well as 2 barrels of tainted American mutton.

Previous reference has been made in reports from this consulate as to the limitation of the use of chemicals as preservatives for food products in Sweden, among which boric acid has been especially mentioned.

SALVADOR.

MEATS, GROCERIES, CANNED GOODS, AND BREAKFAST FOODS.

In transmitting the following report, Consul-General Samuel E. Magill, of San Salvador, says that American exporters of preserves, meats, cheese, crackers, biscuits, etc., in tins, porcelain, glass, or other coverings, should remember that such goods spoil quickly in the climate of Salvador, unless hermetically sealed, and packed so that such sealing will not be disturbed in transit:

Grocery stores and butcher shops, as conducted in the United States, do not exist in Salvador, the supplies for the home table and the restaurant being purchased daily from a central market, where stalls or stands, conducted by women, carry stocks of vegetables, meats, poultry, eggs, fish, fruits, etc., received daily from the surrounding country, and daily sold to the cooks. No provision being made in

these stands for refrigeration, and few homes being furnished with ice chests, a fresh supply of food daily is necessary.

The mass of the people here live on corn and beans, prepared in various forms, together with the cheaper grades of meat; the wealthier homes are supplied bountifully with better meat—beef, tongue, pork, mutton, rabbit, chicken, and pigeon—and with some vegetables and fruit.

LIMITED DEMAND FOR CERTAIN ARTICLES.

Cereals prepared in the various forms so well known and so largely used for breakfast foods in the United States are little seen here, and would be difficult to introduce, for it is the local custom to take only coffee and bread, sometimes eggs and fruit, for breakfast.

Sugar and coffee are produced here, but China supplies tea. Dried fruits, flour, flavoring extracts, baking powder, nuts, and raisins come from the United States.

Vegetables and fruits being grown here in great variety and obtainable practically all the year round, there is but a small market in Salvador for canned goods, and the demand for such things as meats, fruits, oysters, jellies, etc., in cans or bottles, is further limited by the heavy import duty charged on such merchandise. Only three houses of importance carry canned goods and preserves and these only carry them as side lines. [Names of these firms filed in the Bureau of Manufactures.]

Salmon, oysters, and an occasional breakfast food come from the United States; soups and jams and cheap candies from England; olives, peas, asparagus, pickles, mustard, cheese, capon, mushrooms, plums, and fruits generally from France. The bulk of this class of merchandise is bought in France.

CANADA.

DEMAND EXISTS FOR FIRST-CLASS AMERICAN MEAT PRODUCTS.

In the Kingston and adjoining Canadian districts Consul H. D. Van Sant states that the market for American lard, hams, and bacon, and for high-class Western canned meats and poultry could be increased. The consul's market particulars follow:

Canned goods and California fruits could also be brought into more general use. While the Canadian production in these lines is growing better each year, owing to improved methods, the American article still leads and the advantage of milder climate and more extensive and superior methods of culture and canning has not yet been overcome. The superiority of our high-class and newly inspected canned goods is admitted, and with a little more effort American exporters could increase or reestablish sales in this line. The exposures of several years ago injured the sale of canned meats at the time, but since then the United States inspection law has resulted in the canning of superior goods, and if this new line is introduced it will command a large sale.

The writer has frequently heard the wish expressed for American canned goods. The old stock has dwindled and the new stock on hand is largely local, while many Canadian buyers ask for American

brands. Detroit and Western lard shipped here last winter commanded a quick sale, and American dealers in the mentioned lines would do well to look after this market another season. Only the best and properly inspected article should be sent. Inferior and second-grade products injure prestige and sales.

ALGERIA.

LACK OF CHOICE FRESH MEAT AFFORDS MARKET FOR CANNED FOODS.

Consul James Johnston, of Algiers, makes the following report on the prospective market for American preserved foods in Algeria:

There has been no great consumption of canned foods in Algeria, mainly owing to the fact that this class of provisions has never been properly placed before the public, and no attempt appears to have been made to develop the trade. Algeria should be a fair market. Fresh-killed meat of good quality, especially during the summer months, is not easily had, and is kept fresh with great difficulty. Such being the case, canned meats should and would be a popular and welcome substitute, and no doubt a ready sale would ensue were the goods properly exhibited and their advantages demonstrated.

In advertising matter it would be well to impress the fact that all such products pass under government inspection, which would diminish to a great extent the effects of the recent scare, the matter having been so greatly exaggerated in many newspapers. It is impossible to obtain any reliable figures as to the importations of American canned foods into the Algerian market, as most of this class of goods is shipped here through the Continental depots, the quantity shipped direct being insignificant. [A list of persons handling such goods, forwarded by the consul, is filed with the Bureau of Manufactures.]

BRITISH FLOUR PURCHASES.

SITUATION OF AMERICAN-MILLED ARTICLE IN ISLAND'S MARKETS.

Special Agent M. H. Davis has made a preliminary investigation of the British flour trade and contributes from London the following general review of the position of American flour in the United Kingdom:

The statistical position in respect to wheat and wheat flour for the United Kingdom of Great Britain and Ireland is substantially as follows:

The annual consumption of wheat flour is generally conceded to be about 42,000,000 sacks of 280 pounds each, equaling 60,000,000 barrels of 196 pounds each. Of this quantity, there has been imported annually of late years wheat flour equal to 7,860,000 barrels. The United States in recent years, 1906 and 1907, has supplied annually about 5,500,000 barrels of the United Kingdom's imports, the remaining requirement, say, 2,400,000 barrels, coming principally from Canada and Australia, a relatively small part being furnished by France and Hungary. Dating back some eight years and covering a period of ten years previously, the imports were much larger than for the past four years, reaching as high as 13,200,000 barrels, when the mills of the United States supplied fully four-fifths of the

requirement, according to the opinion of the older importers of flour, who deplore the falling off of flour imports and the decline of imports from the United States, now but about one-half of their one-time quantity.

VARIOUS CONTRIBUTING CAUSES.

The causes leading up to this decline in exports of the United States to the United Kingdom are many, and in subsequent reports I hope to go into details as the information develops, being already convinced from what I have thus far learned that it is possible to restore in great measure the lost trade.

The more important causes responsible for decreased trade are seven in number, and they must be presented here and thoughtfully considered by American millers in so far as their action may suggest remedies, if the business of the past is to be regained. These seven causes appear from the investigation so far conducted, and attention is drawn to them now, that the millers themselves may give them consideration at their general convention, to be held in Detroit the second week in June.

In the first place, there is the increased productive capacity and large financial resources of the millers of the United Kingdom. An important bearing is the active campaign constantly carried on of late by many of these mills to educate the British consumer to the use of home-milled flour. That no similar work or advertising effort seems to be carried on by American mills is a grave oversight or neglect. The size of the British miller's pocketbook, his keen desire for more business, and his location are all powerful factors. If Great Britain produced enough wheat and of the proper quality, the competition between the British and the American miller would be disastrous for the latter. Fortunately for him, however, the miller of the United States has the advantage of location in respect of quality and quantity of the raw material. The British miller has less than one-fourth of the home requirement grown on home soil.

BRITISH WHEAT—AMERICANS INACTIVE.

The quality of this home wheat production is not all that might be desired for best results. However, such advantages as the British miller has he is now making the utmost of by his continuous system of advertising and pushing methods for placing his goods with buyers, whereas a few years ago the situation was exactly reversed, when the American miller was the pushing, active factor in the trade. I hear it often stated that the British miller has at last awakened to his possibilities; he is certainly making the best of them just now. While this subject will be discussed in a later report, it is essential now that American mills be advised as to the apparent effect of less active work on their part and urged to bring the natural remedy into the case as soon as possible by concerted or individual effort.

A second consideration is the custom for many years past on the part of the American railroads and Atlantic steamship companies of making freight rates lower on wheat, or the millers' raw material, than on flour, his finished product. If the American miller had no competition abroad, this practice might be permissible, but in view of the excellent mills in countries other than our own it must be ap-

parent that lower rates on wheat than on flour simply arm competing foreign mills with cheap wheat wherewith to beat down the price of American flour abroad and thus displace it. Where the bulk of a finished product is the same as the raw material, as in the case of flour and wheat, it seems to me that good public policy would suggest, in the case of a surplus crop, as wheat in the United States always is, that the finished goods rather than the raw material should be moved to the seaboard at such discrimination in rates favorable to the finished product as would overcome the arbitrary difference in rates established by the foreign-owned steamship companies now controlling the ocean carrying trade.

EFFECT OF BAD WHEAT CROP, DURUM RAISING, ETC.

A third cause contributing largely to loss of flour trade in Great Britain came at the critical time when British millers were awakening to what they might do. It came in the shape of a partial failure in 1904 of the wheat crop of the United States. Other countries were more favored than the United States as to quality of wheat, and the subsequent twelve months from the harvest saw the British miller more firmly intrenched than before. Promised protective measures in the United Kingdom's fiscal policy had encouraged extended remodeling and building of home mills, and it was unfortunate and harmful to American milling interests that an inferior crop of wheat should appear at this particular time as a special handicap. The unfavorable results of that crop still exist.

Fourth, it may be stated that the introduction and large production of an inferior wheat in the Northwest, known as macaroni or durum wheat, has had much to do with loss of trade in American flour. To a considerable extent the confidence of foreign buyers has been shaken by the thought that possibly a considerable percentage of this durum wheat might find its way into our flour. So far it has not appeared to any marked extent, but the fear is upon the buyers and every means to reassure them should be taken by exporting mills.

MILLING METHODS—TRANSPORTATION DIFFICULTIES.

As a fifth contributing cause the methods of some mills are such as to reflect discredit on all, or at least to destroy confidence in the high standard of excellence that for many years characterized American flour. A lowering of specific qualities in some instances and false branding have made great "talking points" for those striving to displace American flour.

A sixth element has been the irregular arrivals and delays in transit. These features, well known to American millers, still prevail to vex and embarrass the flour importer; and not quite all has been done that can be done by the miller to overcome the bad results that are sure to follow such recurring disappointment as comes from delayed shipments.

Seventh, the political status here as relates to possible tariff changes in Great Britain is influential in restricting our flour trade to a greater extent than is generally understood. It may be put down as one of the potential factors with which we have to deal. Should the British nation amend its tariff laws on the protective lines being urged, the American mills would be at great disadvantage unless some form of

reciprocity could be provided by adequate action of the Congress of the United States.

It is my intention to take up in subsequent reports, for detailed discussion or explanation, each of the foregoing seven causes contributing to the lessened trade in flour. Several of them require further research.

EXPORT STATISTICS.

Commerce and Navigation returns show the following exportations of wheat flour and wheat from the United States to the United Kingdom for the fiscal years stated:

Year.	Wheat flour.	Wheat.	Year.	Wheat flour.	Wheat.
	<i>Barrels.</i>	<i>Bushels.</i>		<i>Barrels.</i>	<i>Bushels.</i>
1891-----	7,037,420	29,820,650	1900-----	10,257,028	62,774,870
1892-----	9,608,910	67,293,980	1901-----	10,854,573	78,574,752
1893-----	10,361,680	72,513,184	1902-----	9,059,722	77,544,418
1894-----	9,987,179	50,808,680	1903-----	9,835,886	47,590,161
1895-----	8,825,277	54,873,341	1904-----	8,073,943	23,589,371
1896-----	8,211,236	43,648,077	1905-----	2,455,667	3,907,152
1897-----	8,256,630	55,742,689	1906-----	5,366,679	15,457,639
1898-----	9,132,465	80,163,805	1907-----	5,356,024	26,129,346
1899-----	10,233,360	74,613,304	1908 *-----	5,079,987	38,681,444

* First ten months ending April 30.

Other wheat preparations exported to Great Britain have also declined; "preparations of breadstuffs for table food" (breakfast articles mostly made from wheat) were valued at \$1,046,496 in 1898, \$1,390,281 in 1900, \$1,281,967 in 1903, \$884,771 in 1904, \$752,992 in 1905, \$730,333 in 1906, and \$556,363 in 1907.

[A list of firms who are members of the London Flour Trade Association, also lists of flour importers at Liverpool, Glasgow, Manchester, and Belfast, may be secured from the Bureau of Manufactures.]

COFFEE AND TEA.

BRAZIL.

LONDON COMPANIES SUBSIDIZED TO EXTEND BRITISH COFFEE SALES.

Consul-General George E. Anderson, writing from Rio de Janeiro, March 24, gives the following account of the latest effort of a Brazilian State to enlarge the market for coffee:

A contract has been signed between the government of the State of Sao Paulo and two London firms whereby the latter are to undertake a propaganda for the use of Sao Paulo coffee in the United Kingdom covering five years and the government of the State is to pay the firms, for that purpose, a subsidy covering five years, amounting in all to \$250,000, and to grant to them certain privileges of trade value which practically increases this subsidy. By the terms of the contract the two firms undertake to form a company in England with a capital of £52,500 (\$255,491), covering 50,000 preference shares of £1 each and 50,000 ordinary shares of 1 shilling each; 5,000 preference shares are to be sold to Sao Paulo planters and the rest divided between the two firms, such shares to have preference in dividends up to 7 per cent per annum and in the capital.

This company is to establish a propaganda of Sao Paulo coffee in Great Britain, which after two years may be extended to all British colonies and Egypt. It is to place on the market two grades of Brazilian coffee, one a well-roasted grade of American types 3, 4, and 5 more or less, and the other types 7 and 8 more or less. The coffee is to be sold to the public at the lowest possible rate so as to interest the working classes. The sale price shall be fixed by the company. The goods are to be sold under trade-marks which are to be controlled by the government, which also will control the quality of the coffee sold. The trade-marks are to be the property of the government until the end of the five years, after which they will belong to the selling company, which will at that time assume responsibility for the quality of the goods sold. The coffee shall be sold either green or roasted and the packages shall bear the stamp of the government, and the company shall have the right during the continuance of the contract to style itself the "Official Agent of the State of Sao Paulo."

NO PROSPECT OF REDUCING PRODUCTION OF COFFEE.

The contract and the course of the State government are generally looked upon with approval by coffee men in the Brazilian trade. There seems to be no prospect of any diminution in the production of the berry and the only way to dispose of it profitably appears to be by stimulating consumption. Many persons familiar with what has been accomplished in the United States by advertisers handling substitutes for coffee believe that an active advertising campaign in the United States would solve many of the present troubles. The Sao Paulo government has believed that with proper advertising and presentation of their product the people of Great Britain as a mass will use as much coffee as the people of the United States. The contract just signed is based upon their belief.

In the meanwhile there seems to be no break in the increasing supply of coffee for the world's consumption, with prospects for a very large crop next year. The entries of coffee in Brazil up to March 20, this year, were 9,225,851 bags as compared with 15,913,914 at the same date in 1907, 8,889,758 in 1906, 9,087,835 in 1905, and 9,378,127 in 1904. The entries so far this year are therefore greater than the average for three years previous to the banner crop of last year. Coffee is coming down from the interior of Sao Paulo at the rate of 16,000 bags per day, indicating a considerable supply yet to be entered.

COFFEE SHIPMENTS TO UNITED STATES.

NUMBER OF INVOICES INCREASING—OPENING NEW TRADE CHANNELS.

Consul-General Anderson also shows the following trade changes in the Brazilian coffee traffic with this country:

A turn in the export of Brazilian coffee to the United States which may be of special interest to the coffee trade is represented by the fact that the steamer Sergipe, sailing from Rio de Janeiro on March 28, took 10,000 bags of coffee to Charleston, S. C., the shipment being reported as the beginning of a regular coffee trade to that port. Heretofore the \$60,000,000 and more worth of coffee going from Brazilian to American ports annually has gone either to New York or to New Orleans. There has been some movement of lumber and

naval stores out of some of the southern ports of the United States to Brazilian ports from time to time, but practically no steamer shipments from Brazil to such ports. The shipment is also interesting in view of the decadence of the old-time trade of Baltimore with Brazil.

In shipments of coffee from Brazil to the United States there is becoming more and more manifest a disposition to break away from the old lines of the trade. The number of small invoices to widely-scattered houses is increasing.

BRITISH INDIA.

DECREASE IN BRITISH TEA TRADE—FOREIGN SALES PROPAGANDA.

Consul-General William H. Michael sends the following report from Calcutta on the exportation of tea from British India:

The quantity of tea entered for export to the United Kingdom during the first half of March, 1908, was 368,499 pounds of black tea and no green tea. During the same period last year the amount of black tea exported to the United Kingdom was 1,113,166 pounds, which shows a great falling off for this season. The total amount of tea shipped from April 1, 1907, to March 15, 1908, was 160,880,128 pounds, of which Calcutta shipped black tea amounting to 117,900,460 pounds, green tea 57,917 pounds, while Chittagong shipped 42,414,803 pounds of black and 506,948 pounds of green tea. This is a decrease of 6,996,188 as compared with shipments from April 1, 1906, to March 15, 1907.

At the half-yearly meeting of the Indian Tea Cess Committee it was resolved to continue the existing arrangement for advertising in the United States jointly with Ceylon, and the sum of \$34,285 was voted for this purpose. The total to be contributed by India and Ceylon for the purpose indicated is \$60,000. The committee also decided to maintain the separate India advertising fund which they started in the United States during 1905 and to allot to it a further sum of \$20,000. To maintain and to extend the scheme which is in progress for pushing Indian tea in Belgium and Germany \$25,000 was voted. An Indian tea house is to be opened in Berlin shortly. The committee likewise agreed to continue the green tea bonus at the rate of 1 cent per pound on 2,000,000 pounds of green tea to be manufactured during the coming season. With the object of assisting the Indian section of the Franco-British exhibition, which will shortly open in London, the committee agreed to set aside \$3,750, and they also empowered the executive committee to expend at their discretion \$2,500 on the work in India and Tibet.

SUMATRA.

GOVERNMENT RESTRICTIONS UPON PADANG COFFEE GROWERS REMOVED.

Vice-Consul-General George E. Chamberlin, of Singapore, reports that on March 1 the following important change in the sales of coffee at Padang, in West Sumatra, came into force:

Hitherto the Malay inhabitants of the land had been compelled to sell to the government, at a fixed price, all the coffee grown by them.

The government then auctioned the coffee at Padang, and the proceeds furnished an important item of revenue. The cultivators are now no longer bound to follow that delivery system. As the well-known Padang coffee auctions have been done away with, the growers can sell their coffee to any buyers. Growers may, if they choose, still go on delivering their coffee to the government storehouses at a special price, this measure being taken to prevent traders from combining to force down the price.

Sumatra coffee has long enjoyed a high reputation in the market, and formerly sold at high prices at the periodical auctions at Padang, chiefly for export to the United States. The growers have now the opportunity to sell a product sure of a brisk demand, with prices kept up by keen competition.

WORLD'S COFFEE CONSUMPTION.

OVER TWO-FIFTHS OF THE TOTAL TAKEN BY THE UNITED STATES.

Consul James E. Dunning, of Milan, reports that, according to statistics published in a leading coffee-trade journal, the world's consumption of coffee in 1907 amounted to 16,825,000 sacks, of which 6,980,000 sacks were consumed in the United States, 3,050,000 sacks in Germany, 1,625,000 sacks in France, leaving 5,170,000 for consumption in all other countries. The consul adds that the consumption of coffee in Italy is only 1.44 pounds per capita.

FRUITS.

UNITED KINGDOM.

CLEVER ADVERTISING TO POPULARIZE BANANAS, ORANGES, AND APPLES.

Consul J. Perry Worden, in reporting that Americans may considerably increase their trade in American fruit in Bristol, adds that if they are to do so they must push their representation more vigorously by personal agency, and especially by attractive, effective advertising. The consul's report continues:

The store windows here are bright with lithograph signs of Jamaica and Canadian fruit shipments, but very few American placards are anywhere to be seen, although considerable American fruit is regularly brought into this port. How effective such advertising may be is seen in the fact that one of the leading dealers, pointing to some clever pictures of Jamaica bananas and some very artistic cards of California seedless (navel) oranges, declared to me to-day that he can sell fruit at a cent a pound more, and twice as much of it, if his display be accompanied with attractive placards.

In general, it may be said that if one were to judge by the prevalence of such card advertising as "Canadian apples," "Canadian fruit," one would imagine that no fruit reached this market from the United States. The reason for the illusion is easily discovered, as Canadian shippers send plain and beautifully illustrated placards with nearly every consignment, while the American shippers send little or no advertising matter. The result is that the passer-by or

possible purchaser is misled as to the quantity of fruit imported from the United States. American apples in particular are very popular here, especially in the early season, and the sale of California oranges, particularly the seedless variety, is steadily on the increase.

PICTORIAL PLACARDS.

A good illustration of the value of this pictorial advertising is found in the service rendered the Jamaica banana industry by the lithographed card. In touring England in 1892 and 1895 the writer noticed the scarcity of tropical fruit here, and it was only some four years ago that the Jamaica banana importers entered on their campaign for the market of England. Then it was that suddenly a branch was opened in Bristol, hundreds of windows and billboards were placarded with bright-colored posters showing the cultivation and collection of bananas in their native environment, signs were carried about the streets, and the yellow fruit was sold for whatever it would bring. Bristol took to bananas, and the leading merchants here state that within two months the Jamaica banana trade had firmly established itself in this city, and by its ever changing and attractive placards, and better fruit, has held its own ever since.

Another illustration of the possibilities of advertising fruit is found in the hundreds of placards recommending Valencia oranges for influenza. Owing to an epidemic of this disease in Bristol of late, and the clever placards of Spanish fruit, the sale of Valencia oranges has advanced over 500 per cent so suddenly that dealers have scarcely been able to meet the demand.

ADVERTISING AMERICAN FRUITS.

It is evident, therefore, that if Americans wish to increase the sale of American fruit in Bristol and other parts of England, or even hold their share in the fruit market here, they must meet the conditions created by other competitors and the ever greater demand by the English public for illustrated periodicals and advertising. One very artistic placard, showing some California seedless oranges with the legend "The Aristocrat of the Orange World," has nearly doubled the sale of California oranges here, and if American shippers would give more attention to the supplying of such advertising matter there is no doubt that the traffic in their fruit would greatly increase.

The English are natural travelers, and an appeal to their imagination is scarcely ever in vain; hence placards showing the orange plantations, apple orchards, etc., should be as effective as pictures of banana groves. During the latter part of April some of the finest apples ever sold here were brought from Oregon and quickly disposed of at fancy prices. Had these apples been accompanied by an illustrated placard or two, giving some idea of the life in that distant northwestern State, the name "Oregon" would have been more indelibly stamped on the mind of the apple buyers. A clever sentiment on such cards would add much to their force, and if the price can be stated distinctly and neatly, it would be well to add that to the lettering.

It may be added that several of the placards displayed here have been made by English printers and lithographers, apparently at the order of the local importing agents.

CANADA.

METHODS OF GROWING FIGS IN THE PROVINCE OF ONTARIO.

Consul A. G. Seyfert, of Collingwood, reports that the culture of figs has proved successful in the Canadian province of Ontario. He says:

The Niagara peninsula, that part of Ontario west of the Niagara River to the western end of Lake Ontario, is well known as one of the finest fruit-growing sections in the province, if not in Canada, but it may surprise many to learn that fig culture has been successfully conducted near Niagara on the Lake for the last forty years. The climate of this section of the peninsula appears peculiarly suited for the culture of figs. The open waters of Lake Ontario and the Niagara River modify the temperature greatly, and the usually comparatively mild winter, as compared with the same latitude elsewhere, followed by a backward spring—caused by the ice coming down the river from the upper lake—and the dry and warm summer, produce an ideal climate for all kinds of fruit, especially figs.

The fig is a native of subtropical countries, and is almost unknown in central North America in its fresh state. The theory is that figs will succeed in any country where peaches and apricots do well without protection, if the fig plant receives proper winter protection. The fig growers of the Niagara district protect their plants in the following manner during the winter:

As soon as the leaves have fallen and sharp frosts set in, two or three of the branches are bent to the ground in their natural direction and tied loosely with strips of cotton or other soft material and held in place by crotched pegs, care being taken not to injure the bark. When all branches are down the whole is covered with a mound of earth three to four feet in depth. In the writer's experience fine sand is preferable to earth, as it keeps away mice and cut worms, which are injurious to the young wood.

In the spring, when danger from severe frost is over, air is let into the mound by holes made with a small pole or the handle of a rake, and during the following ten days the earth is removed by installments. Care must be taken that the bark is not injured in the process. When the bush is fully exposed it is generally found that bearing wood is covered with small fruit, about the size of a large pea, while the buds show, but are not open. Varieties that have proved most successful at Niagara are the White and Purple Ischias, the Brown Turkey, and White Genoa.

ASIATIC TURKEY.

INCREASED RAISIN CROP—VINEYARDS REPLACING OLIVE ORCHARDS.

Consul Ernest L. Harris advises that 281,000 sacks of raisins were received on the Smyrna market from the commencement of the season to January 30, against 175,000 sacks during the corresponding period of last year, or an increase of 106,000 sacks. The sales to the end of January amounted to 274,000 sacks, against 170,000 last year.

Owing to the keen competition of Crete, Spain, and Italy, in the matter of olive oil, the owners of olive orchards find that there is but little profit, and are now felling all but the very best olive trees, in order to plant vineyards instead. The Agricultural Department of the Vilayet of Smyrna has now about 1,157,000 cuttings ready for distribution to those about to plant vineyards. The Government grants freedom from taxation for a period of ten years on all new vineyards planted, in order to encourage the industry.

SUGAR TRADE.

CUBA.

NUMBER, OWNERSHIP, AND PRODUCTION OF THE PLANTATIONS.

Consul-General James L. Rodgers, writing from Habana, makes the following report on the control and output of sugar plantations in Cuba:

The latest statement as to the ownership of Cuban sugar plantations, meaning those which are producing sugar and not cane alone, assigns 36 to Americans, 76 to Europeans, and 74 to Cubans, a net gain of 3 plantations over 1907, the gains showing 5 to Americans and 4 to Cubans, while the Europeans lost 6.

Whatever may be the ownership no one has as yet been able to put an accurate valuation on the plants, this being due principally to the varying quantities of land possessed by the companies producing sugar. In some of the old "centrals" and "ingenios" there is vested proprietorship over large tracts, and while only a small portion of the land may be planted, the whole of it may be included in the assets. Thus the estimate of values may well run from \$50,000,000 to many hundred million dollars.

Assuming that the ownership is as stated, it can be seen that the foreign holdings in Cuban sugar plants are now over 60 per cent of the whole and presumably with a much greater proportionate value, since the American mills especially are of the most modern and efficient construction, while many of the mills credited to Cubans are of obsolete type and barely able to produce sugar at even a high cost. The European mills generally occupy the middle ground as far as value is concerned.

As to production on the basis of the 1907 output which represented the maximum of endeavor, the American mills produced 30 per cent of the total, the Cuban 35, and the European 35. As the number of American mills is given at only about one-half of the Cuban and European number, the size and efficiency can be easily perceived. Furthermore, the statistics of 1908 will undoubtedly show that the production from the American mills will be greater than either of the others.

CUBAN SUGAR INFLUENCE.

THE ISLAND'S CROP SHORTAGE RAISES EUROPEAN PRICES.

Consul Talbot J. Albert, writing from Brunswick, Germany, says that lately it has been distinctly shown that Cuba is in a position to be a prominent factor in shaping prices on the European sugar markets. The consul continues:

The conditions in Cuba more than any other impulse arouse in these markets the disposition to buy. The fact that a leading firm on April 8 last reduced their estimates of the crop in Cuba to 925,000 tons was sufficient to materially advance the price of sugar, so that the quotation exceeded that of last year at the same time in round numbers by $4\frac{1}{2}$ marks (\$1.07) per 100 kilos (220 pounds). In 1907 there was produced in round numbers 1,485,800 tons, and in 1906, 1,267,400 tons of Cuban raw sugar. According to the latest estimates there will be a deficiency of 560,800 and 340,000 tons, respectively, as compared with the two preceding years. This deficiency,

should it really reach the amount estimated, it is natural to suppose will compel recourse by the United States to European beet sugar, and the present advance in quotation is based upon the expectation of American purchases.

UNITED KINGDOM.

HIGHER PRICES CAUSED BY SHORTAGE AND INCREASED CONSUMPTION.

Consul Frank W. Mahin, writing from Nottingham, under date of April 27, says that since January 1, the wholesale price of sugar in Great Britain has advanced 17 per cent for raw and $9\frac{1}{2}$ per cent for refined, adding:

The prices are said to be the highest since 1905, when the advance was due to artificial, speculative causes. The present advance is legitimate, being attributed mainly to shortage of cane sugar in Cuba, British East India, Mauritius, Argentina, Brazil, and Java. Increased European consumption and low stocks on hand are also noted as contributory causes. A general increase of retail prices of sugar is expected, but has not yet occurred in this market.

GERMANY.

DECREASED PRODUCTION SHOWN FOR FIRST HALF OF YEAR.

During the period from September 1, 1907, to March 1, 1908, being the first six months of the 1907-8 sugar campaign, the production in Germany was 1,817,183 metric tons, as compared with 1,909,140 metric tons during the corresponding months of 1906-7. The total output of sugar, raw and refined, during the period mentioned, expressed in terms of raw sugar, was 2,027,707 metric tons, as compared with 2,126,736 metric tons for the corresponding period of the previous year.

BRITISH INDIA.

PRODUCTION NOT SUFFICIENT TO SUPPLY HOME CONSUMPTION.

Consul-General William H. Michael, of Calcutta, reports that notwithstanding a home production of 2,076,250 tons of cane sugar, India imported 9,730,713 hundredweight of sugar, valued at \$27,276,092, in the fiscal year ended March 31, 1907. Of the imports, 5,926,879 hundredweight were cane sugar, and 3,803,834 hundredweight beet sugar, the latter being imports from Austria-Hungary, Germany, the United Kingdom, etc.

JAVA.

LARGE AMERICAN AND BRITISH PURCHASES—JAPANESE HOLDINGS.

Consul-General Henry B. Miller forwards from Yokohama the following statement from a Japanese publication regarding the sugar trade:

American sugar merchants have made immense purchases of Java crude sugar, London merchants following a similar course. This has forced up the market for Java sugar from 6.10 to 6.60 yen per picul (\$3.04 to \$3.29 per 133½ pounds). The activity shown by the American merchants is due to the revival of trade in the United States and the failure of the sugar-cane crops in Cuba, the latter showing a decrease of about 30 per cent on the figures for a normal year, which amounted to 1,300,000 tons. Over 700,000 tons out of 1,400,000

tons of the total production in Java have been contracted for by American and British merchants, and the sugar market this year will be greatly affected. The stock of Java crude sugar in Japan is not more than 40,000 tons, which, added to the new sugar purchased for forward delivery by the Japan Sugar Refining Company, shows a total not much exceeding 52,000 tons. This is not regarded as sufficient to last for more than three months, so far as the operations of the Japan, Yokohama, and Kobe sugar refinery companies are concerned.

AFRICAN EDIBLE NUTS.

THE DYKA, KARITE, AND THE ACAJOU OR MAHOGANY NUT.

In answer to inquiries, Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to some new edible nuts of the West Coast of Africa:

The dyka nuts have no present commercial value whatever, and are not dealt in commercially, either in Marseille or on the West Coast of Africa. This information is supplied by one of the largest French corporations doing business on the West Coast. A sample of the nut, which is used by the West Coast natives to some extent for the production of a vegetable butter, is herewith inclosed. [Sample in the Bureau of Manufactures.] Thus far, although complete knowledge is available in regard to the article, it has not been found possible to utilize it practically.

On the other hand, the fruit of the karite tree is now being handled in fair commercial quantities, for the production of a cheap type of vegetable grease, useful for the manufacture of soap and candles. The natives of Africa hull the nut, which somewhat resembles the chestnut, mash and boil the kernels, skimming off the floating grease, which has also an alimentary value.

Another edible nut of commerce, comparatively unknown in the United States, is the acajou or mahogany nut, the kernel of which is solid, large, and sweet, and resembles the almond in flavor. Some shipments of this nut have been made to the United States within the last year or two.

ICE IN CALCUTTA.

LOW PRICES AND STEADY SUPPLY GUARANTEED.

Consul-General William H. Michael furnishes the following information concerning the terms on which ice is supplied to consumers in Calcutta:

The ice-manufacturing companies of Calcutta have issued a notice to the public that they are prepared to enter into engagements to supply ice at half a cent per pound. To do this it is proposed to sell coupon books which will bind the company to sell at a price agreed upon, whether the demand is large or small. The schedule of prices in the coupon books is as follows: 80 coupons, each for 4 pounds of ice, \$1.66; 64 coupons, each for 6 pounds, \$2; 80 coupons, each for 8 pounds, \$3.33; 32 coupons, each for 40 pounds, \$6.66.

It not infrequently happens that the supply of ice in Calcutta runs low, and prices go up accordingly. This is when the mercury runs up to 103°, 105°, and 109° in the shade, and stays there for days at a time. Then ice is liable to more than double in price, unless the consumer holds a coupon book.

INDUSTRIES.

CONDITIONS AND PRODUCTS.

SALVADOR.

MANUFACTURE OF ALCOHOL UNDER GOVERNMENT SUPERVISION.

Consul Samuel E. Magill, of San Salvador, reports that the manufacture of alcohol is conducted under the supervision of the Government, by certain persons in stipulated places, usually Government grounds, where each distiller must construct his plant. Concerning the sales of alcohol in the Republic, he writes as follows:

In all of Salvador there are 62 plants (owned by about 40 different concerns), the total capacity of which is about 22,000 bottles of 24 ounces each per month, on which the Government collects a fixed revenue of \$1.50 silver (61.2 cents gold) per bottle. The retailer who sells in excess of the quantity assigned him (300 bottles per month in San Salvador) receives a rebate of 50 cents (20.4 cents gold) per bottle sold in excess of the fixed amount, paying a fine of a like sum per bottle on the number of bottles sold less than the fixed number assigned to him.

The material used is the juice of the sugar cane, either sugar or molasses, which is brought in from the cane fields and placed in vats holding about 1,000 gallons each, where it is allowed to remain in process of fermentation, from three to seven days, after which it goes through the usual distilling process, being kept at a temperature of about 65° C. (about 150° F.). It is then drawn off into tanks where it is inspected by Government experts, and after passing through this examination it is ready for sale. The Government's supervision extends even to the sale of the product, returning to the owner of each plant the money in excess of the tax.

PROBABLE OPENING FOR AMERICAN DISTILLING APPARATUS.

The apparatus used is entirely of French manufacture, and the plants vary in cost from \$3,000 to \$15,000 silver (\$1,224 to \$6,120 gold), according to capacity. The owners of plants, who were interviewed in this connection, could give no reason for their preference for French apparatus except that they had been accustomed to its use, and their attention had not been specially called to apparatus manufactured in any other country.

To secure the introduction of American distilling apparatus, it would, probably, be necessary for the manufacturer to guarantee the purchaser as to cost and capacity, to secure the first order, when, if results proved the superiority of the plant, other orders would come easily. [A list of the distillers in the Republic is on file in the Bureau of Manufactures.]

HONDURAS.

AMERICAN FORESTRY ENTERPRISE—NEW RAILWAY OPENED.

Consul Drew Linard writes as follows from Ceiba in regard to development in Honduras:

American capitalists have in view the working of a concession of 8,000 acres of hardwood timber. On a small area of this tract some 6,000 mahogany trees were located and marked for cutting. In the event of the carrying out of the project, the construction of 20 miles of railways, with spurs, will be undertaken. Steamships will also be chartered to transport the timber and other products to ports of the United States. It is also the intention to plant rubber, banana, and cacao as the land is cleared.

The Vaccaro Brothers railroad was officially opened for transportation traffic on April 11, and is now operating under regular schedule between Ceiba and Salado. Ceiba's release from land isolation is now apparent in the commercial activity caused by the many daily visitors who come from the various towns located along the 35 miles of completed road.

The track is of three-foot gage, 40-pound steel rails, creosoted American pine ties, and substantially ballasted. The roadbed passes over several American girder bridges, and all material used in the superstructure and rolling stock is of American manufacture. There are at present three 30-ton locomotives, sixty freight and several passenger cars in use, while additional equipment will be made as conditions demand.

It is the intention to construct a "loop" around Ceiba, a part of which will be built along the beach, and thereby enable the planters to discharge their cargoes from the train to lighters direct. This method will effect an important economy to fruit shippers. As a result of this road the development of banana cultivation is greatly increasing, and the shipments from this port will doubtless double the present 4,000,000 bunches that are annually exported.

COLOMBIA.

STATEMENT BY THE PRESIDENT OF THE REPUBLIC.

Consul Isaac N. Manning, of Cartagena, reports that previous to his visit to the Atlantic coast, President Reyes made a statement concerning the conditions and prospects in Colombia. The principal points are covered in the following review by the consul:

While the country has been placed on a solid financial base, and while a surplus of \$3,000,000 in gold will be in the treasury at the end of the year, to serve as a reserve to maintain the currency on a fixed exchange value, the economic situation is far from satisfactory, and it is necessary to work for its betterment.

On account of the destruction by locusts of the cotton area planted last year, the industry did not turn out as favorably as was expected, but the Government will continue its efforts not only to extend cotton planting but to destroy the locust pest which has devastated the valleys of the torrid zone.

The Government is doing its best to induce foreign capitalists to build railways, and through these efforts three or four million dollars have reached Colombia during the past few years for the construction of the Girardot, the Dorada, and the Zipaquira to Nemocon railways, all of which are still under construction. A national company has been formed, with a capital of \$1,400,000, for the extension of the Buenaventura railway to Papagayeros, and of the Cauca to Cali. The Government is also said to be endeavoring to arrange with the various capitalists of the country for the construction of the unfinished part of the railway from Puerto Berrio to Medellin, and is confident of the outcome.

The President's visit to Santa Marta is to see whether the banana industry can be extended, and to locate a colony there. He says that lands will be ceded gratis to any person who will agree to plant and cultivate bananas in that district.

After his visit to Santa Marta the President will visit other parts of the country with a view of assisting in the establishment of new industries.

CANADA.

PROMISING BUSINESS AND MANUFACTURING OUTLOOK IN NOVA SCOTIA.

Consul George N. West, in furnishing the following information concerning trade and industries in his district, reports that while the spring orders of the Sydney merchants are not heavy in volume the business prospects for the coming year are promising:

Improvements have been made in all mining properties, and from present indications the coal output in 1908 will be very large. Settlements have been made between the mine owners and the miners which will last until December 31, 1909, thus permitting the companies to make contracts two years ahead, and assuring the miners steady work at fair wages during that time.

The only iron and steel mill in Sydney which turns out finished work has enough orders for steel rails on hand to keep it going the entire year. It also has large orders ahead for other products.

A new company for the manufacture of solid forged steel car wheels is expected to begin the erection of a plant in Sydney during the coming season. The city will give this company a free site for the plant, and relieve it of all taxes for ten years. The company, which has an American title, will manufacture these wheels for all Canada, under an agreement whereby it will pay \$1 per wheel to the patentees.

The large amounts of money paid to labor in Sydney and vicinity, say, \$750,000 per month, should favorably affect all ranks of trade.

CHINA.

CHANGING MANUFACTURING CONDITIONS IN THE LARGE EMPIRE.

Consul Wilbur T. Gracey, of Tsingtau, contributes the following information concerning manufacturing in China:

Permission has been granted to certain Chinese to establish waterworks in Peking. The company has a capital of 500,000 taels, and

will begin work, it is stated, at once. The water will be brought from the Sha River and Ching River.

A report from Fatshan, near Canton, states that the native cloth trade there has declined considerably during the past year. At the beginning of last year there were over 200 native cloth dealers and now there remain only 15 to 20 houses of this description. The trade for last year is only about three-tenths of that of the year before last. This is due entirely to the large importations from foreign countries, which are taking the place of the native article.

Some time ago the Tartar general of Ili purchased a spinning and weaving plant from Europe through a foreign firm in Shanghai. Since the arrival of the plant in China it is found that the cost of transporting the machinery to Ili will be excessive, and it is suggested that the provincial authorities at Tientsin purchase it and establish the factory there. The Viceroy of Chihli has been directed by the Throne to consider the advisability of the scheme.

It is also reported that the gentry and merchants of Peking and Tientsin have raised share capital to the sum of 500,000 taels to establish a crape factory in Ili, for which 200,000 taels has already been collected.

Sheng Hsuan-Huai, president of the board of posts and communications, has obtained Imperial approval for the formation of a big coal and iron corporation in mid-China by the amalgamation of the steel and iron works at Hanyang (opposite Hankow), the coal mine at Pinghsiang, Kiangsi, and the iron mine at Tayeh, Hupei, with a capital of 1,000,000 taels, to be divided into 100,000 shares of 100 taels each. No foreign capital will be admitted. The change has been made in order to enable the works to meet the supplies needed for railways in China, and the manufacture of arms.

GERMANY.

ORGANIZATION OF A SYNDICATE OF BICYCLE MAKERS.

According to a German publication quoted by Consul-General Richard Guenther, of Frankfort, the efforts which have been made during the last twelve months to bring about a combine of the German bicycle manufacturers have recently attained success, so that now 90 per cent of the German production of bicycles, including all the principal makers, will act in unison regarding production, terms of sale, price, etc. This syndicate has already advanced the prices for bicycles and has made agreements with all parties supplying materials and fittings used in bicycle manufacture so that the members of the syndicate can purchase at lower prices than outside makers.

UNITED KINGDOM.

DEPRESSION IN THE SHIPBUILDING INDUSTRY.

Consul-General Robert J. Wynne, of London, reports that according to Lloyd's Register the vessels under construction in the United Kingdom at the end of March, 1908, were 847,501 gross tons, against 1,306,087 at the end of March, 1907, a decrease in a year of 35 per cent, of which 100,000 gross tons occurred during the last three months of the year. The present depression extends to every shipbuilding center in the Kingdom with the exception of Barrow.

BUILDING TRADE.**ARGENTINA.****GROWING MARKET FOR AMERICAN CONSTRUCTION MATERIALS.**

Vice-Consul-General Otto Hollender makes the following report on the building trade in Buenos Aires and the possibility of a market for American building materials in the capital of Argentina:

The rapid increase in the population of this city and the consequent demand for houses and apartments of all kinds has caused building to be very brisk in Buenos Aires during the year 1907. According to *Las Ventas*, a publication dealing with real estate transactions, there have been constructed during the year 1907 buildings to the value of \$79,033,833 Argentine paper money (\$1 Argentine paper equal to \$0.42½ American currency), the number having almost quadrupled within six years, the amount in the year 1901 being only \$22,231,824. In spite of this enormous increase in building, rents continue very high, and apartment houses as well as office buildings are generally let even before they are finished, which would indicate that building will be quite brisk in this city for some time to come.

A decided change in the style of building is to be noted all over the city, and while a few years ago the old Spanish style of building, consisting of one story only, with a large "patio" in the middle and fronting directly on the street, was in vogue, numerous buildings of three, four, and even five stories may be seen in the center of the city, while in the suburbs modern dwellings are gradually taking the place of the old-style houses.

WHERE THE MATERIALS COME FROM.

At the present time there is an eight-story building being put up here by Americans, on the American plan and with materials from the United States, which bids fair to induce others to adopt that style of building.

Of the building materials, iron and steel, as well as cement, are mostly imported from England, Germany, and France, although lately considerable quantities of steel have also been imported from the United States. Of the lumber, the white pine, pitch pine, and spruce is nearly all imported from the United States, with an occasional shipment from Canada, while the hard woods are nearly all found in this country.

Sand is imported from Uruguay, there being hardly any in the Argentine Republic, but sometimes bricks are pulverized and used in lieu of the sand, the cost of transportation making the latter an expensive article. Bricks are nearly all made in this country, while tiles for flooring and roofing are mostly imported from France and Belgium.

Plumbing material has been imported lately to a small extent from the United States, but the bulk of it still comes from England. The United States certainly ought to be able to obtain a larger share of this business. This also applies to builders' hardware and sanitary appliances.

With the tendency for modern buildings prevailing at the present time there ought to be a good market here for fireproofing materials of all kinds, as well as sanitary appliances, plumbing materials,

builders' tools, and hardware of all kinds. [A list of the largest constructors in Buenos Aires forwarded by the consular officer may be secured from the Bureau of Manufactures.]

UNITED KINGDOM.

IMPROVEMENT IN HOUSE CONSTRUCTION TO BE MADE IN MANCHESTER.

Consul Church Howe advises that the new building by-laws which have been under consideration by the Manchester corporation for some two or three years have been adopted by the improvements committee of that British city.

The by-laws are a great advance upon those now in operation. In the judgment of the committee, the new by-laws are an important and much-needed step forward. They will secure to the houses of the future more air space, wider streets, and an absence of long, monotonous rows. The main object is to prevent the spread of slums and promote the health and comfort of the people. In future no new street will be less than 14 yards wide, an increase of 2 yards on the minimum width. Main roads must be 50 feet wide instead of 36 feet, the present minimum. And, as far as possible, one street will be planned so as to fit in with other streets.

The long rows of houses, all of one pattern, will not be sanctioned. No block of houses must contain more than 10, nor cover a frontage of more than 100 yards. At the back of each cottage there must be an area of not less than 250 feet, an advance of 100 feet. No blind alleys will be allowed in future, and all passages must lead to main streets. The committee also made provision for staircases in all houses to be fitted with hand rails.

These are the main points of the new by-laws. They will not, however, affect houses that have already been built, but in future all plans that come before the committee for sanction will have to conform to the new regulations.

BAVARIAN INDUSTRIAL INSPECTION.

GOVERNMENT REPORT ON OPERATION OF FACTORIES AND MINES.

The annual report for 1907 of the departments for inspection of industries for the State of Bavaria has recently been published. Its leading features are covered by Consul H. W. Harris, of Nuremberg, as follows:

The State has an area of 29,282 square miles, or slightly less than the combined area of West Virginia and Connecticut. Its population exceeds 6,500,000. It is usually reckoned as an agricultural State, though it has several important manufacturing centers. Its population per square mile is somewhat less than that of Prussia and only about one-fourth that of Saxony.

The report referred to shows that 105,444 concerns employing 676,353 workmen were legally subject to inspection. Of these 8,101 were factories employing a total of 408,904 workmen, while 97,343 concerns for hand work only employed 267,444 workmen. A total increase over the preceding year of 28,652 employees in concerns sub-

ject to inspection is noted, the larger number of these being in factories.

The number of inspections made during the year was 18,756, of which 6,020 were factories, the total of employees in these concerns being 366,266; 184 inspections were made at night and 391 on Sundays and holidays; 1,352 clothing establishments were among the concerns inspected.

Of the 676,353 employees in factories and other concerns subject to inspection, there were 532,412 males and 143,941 females; of these 56,163 males and 16,588 females were reported as under 16 years of age. The report refers to the valuable cooperation of the school authorities to prevent evasion of the laws regulating the employment of children.

LABOR MOVEMENTS—ACCIDENTAL INJURIES.

The report refers to the year as one in which strikes and other labor movements have been frequent. Both employees and employers have strengthened their respective organizations. Wages and the cost of living have tended to increase, while reductions in the hours of labor and of Sunday labor have occurred in many branches. Adult females in factories are said to work, as a rule, less than eleven hours per day. The industrial courts (*Gewerbegerichte*), provided for under Federal law as a cheap and convenient means for the adjustment of questions arising between employers and employees, are referred to in the report as having rendered valuable service during the year. Fifty such courts are stated to be now organized in Bavaria.

The number of personal injuries in factories and other allied concerns is stated in the report to show an increase over those of the preceding year, notwithstanding the more general adoption of safety appliances. This is said to be due, in part, to the introduction of machinery in place of hand processes, the more rapid speed at which machinery is run under the stimulus of favorable business conditions, and of the more general introduction of piecework. The total number of reported injuries was 16,207, an increase of 1,136 over the preceding year. Death resulted in 141 cases, of which 4 were those of female employees and 7 of employees under 16 years of age.

SAWMILLS—MINERAL PRODUCTS.

The report refers to special attention given by the department to the sawmills in Bavaria, of which 3,121 are reported. Most of these mills are small and are operated by water power. The number of employees is stated at 12,955, of which 513 of both sexes were under 16 years of age and 322 were adult females. The hours of labor in these mills is stated to vary from ten to fourteen hours and in some cases from sixteen to eighteen hours. Much of this labor has to do with the sawing of slabs and other refuse from the mills into short lengths which are tied in small bundles and sold for fuel.

The total value of coal, ores, clays, and other mineral products produced in Bavaria during the year is stated at \$5,500,000. The total number employed in these industries was 11,845, of which 8,970 were engaged in mining coal. Among the employees in mines, quarries, clay pits, etc., there were 356 adult females, 354 boys, and 51 girls between the ages of 14 and 16 years.

TOBACCO FACTORIES.**COLOMBIA.****SUCCESSFUL PLANT AT CARTAGENA—FOREIGN TOBACCO PURCHASES.**

Consul Isaac A. Manning recently visited the cigarette factory of N. Emiliani in Cartagena, which was established in 1898 and is proving a successful industry. The consul describes this Colombian enterprise as follows:

This factory employs an average of 12 hands and has a daily output of about 90,000 cigarettes. It sells its product in most of the important cities of Colombia. There are in operation two Comas machines, built by Hugo Bilgram, of Philadelphia, for making the favorite "folded end" cigarette of Spanish America, and one French machine for making cigarettes of the Egyptian pattern. There is a Jewel cutting machine, made by H. Levey, of New York, and the power is supplied by a Fairbanks-Morse gasoline motor.

Cuban tobacco, commonly known as "picadura," is generally used, and the paper is made from cotton or cotton fabrics. A small quantity of Colombian tobacco is used. But very little is known in this country of modes of treatment necessary to prepare the local product and give it the proper flavor and color for cigarettes. Yet it is said that Colombian tobacco is popular in Germany for pipe, cigarettes, and cigars. No Virginia tobacco is used, nor is any rice or wheat paper, the Colombian taste seeming to prefer the odor of the cotton paper, which, to one used to the almost odorless papers mentioned, is unbearable.

IMPORTS OF TOBACCO GOODS.

The importation at Cartagena of foreign cigarettes is light, and the same may be said of American cigarettes and pipe tobacco. Of cigarettes during the year ending June 30, 1907, the importation from Cuba amounted to 1,490 kilos (kilo=2½ pounds), from the United States 386 kilos, and from Germany 290 kilos. The importation of cut tobacco from the United States was apparently 13,270 kilos, and from Cuba 1,685 kilos; yet the bulk of that imported from the United States was Cuban tobacco, reexported from bonded warehouses under drawback certificate. Of cigarette tobacco (probably of the Virginia variety), 176 kilos were imported from all countries.

In leaf tobacco the United States fared rather better, having exported to this port 45,189 kilos during the period mentioned. This was principally for use as cigar wrapper, and was used in the manufacture of cigars with a Colombian filler. The greatest cigar manufacturing district is that of Ambalema, on the Magdalena River, and the cigar makers there are putting out a creditable product. They are put up in boxes of 25, 50, and 100, and make a fairly good appearance, although not equal in shape, style, or flavor to the Jamaica or other island cigars, which are imported here in small quantities.

The field here for the manufacture of cigars and cigarettes for both home consumption and export may be said to be still open to any one with capital and a knowledge of tobacco treatment. The consumption is great, and consumers would appreciate better products than are usually offered in the local markets.

CORSICA.

OPPORTUNITIES FOR THE SALE OF AMERICAN TOBACCO.

Consular Agent Damiani reports to Consul-General Robert P. Skinner, of Marseille, that the manufacture of tobacco upon the island of Corsica is not controlled by the State as it is in continental France, and that opportunities exist from time to time for the sale of Kentucky leaf for wrapping purposes. It appears that at present manufacturers procure their supplies through French and German importers from the United States. Mr. Damiani suggests that American firms should be able to control this business direct. Fine, large leaves of black Kentucky tobacco are required, packed preferably in half hogsheads. The national directory contains names of manufacturers of tobacco in Corsica, which may be obtained from the Bureau of Manufactures.

HYDROGEN GAS PRODUCTION.

ITS ECONOMICAL PREPARATION FOR TECHNICAL PURPOSES.

In transmitting the following report, Consul Thomas H. Norton, of Chemnitz, says that much interest is felt in aeronautic and in certain mechanical circles in the perfection by a German professor of a method for the economical preparation of hydrogen gas on a large scale:

The materials employed in the new process of manufacturing hydrogen gas are water, coke, and calcium carbide. The first step is the production of "water gas," the well-known gaseous mixture obtained when a current of steam is passed through a thick layer of red-hot carbon. For some years past this cheap gas has been employed as a fuel and also for illuminating purposes, either when saturated with volatile hydrocarbons or in connection with incandescent mantles. Its own flame when burning in the air is almost destitute of luminous properties. Water gas consists of a mixture of hydrogen and carbon monoxide gases, with small amounts of nitrogen, etc. Theoretically the two gases should be present in equal volumes, but in practice the amount of free hydrogen is far behind the theory.

The professor has solved the problem of the elimination of the carbon monoxide from the mixture by bringing into play a very simple and elegant reaction. The gaseous mixture is conducted over glowing calcium carbide in the form of powder. As a result the carbon monoxide is completely decomposed in contact with the calcium carbide. Lime (calcium oxide) is formed, and carbon in the form of crystalline graphite is separated. This by-product of artificial graphite is itself capable of utilization for most of the purposes where the natural mineral substance is employed. The minor impurities of the original mixtures are likewise removed in the reaction, and as a result, hydrogen containing but 1 per cent of other gases is isolated.

COST OF MANUFACTURE.

The process is one of extreme simplicity and cheapness, and allows of the easy and rapid production of large quantities of nearly pure hydrogen. An installation capable of evolving daily a volume of 70,000 cubic feet of hydrogen occupies a very small space. Hitherto

those requiring the gas for balloons or the like have been forced to use the expensive process of preparation based upon the action of acids (hydrochloric or sulphuric) upon metals, usually upon iron. The transportation of acids to remote points is also attended with much inconvenience and difficulty.

In its notable lessening of the cost of hydrogen, the new process has accomplished for this gas what another scientist a few years ago did for oxygen when he introduced the method of the fractional distillation of liquid air, and thus secured an "air," consisting of oxygen with but a slight admixture of nitrogen.

Cheap hydrogen is of great value at the present stage in the development of aeronautics, where, in many cases, it is of prime importance to have a much lighter gas than illuminating gas; for example, in polar exploration. This increased availability of hydrogen for technical purposes will likewise be of distinct value in extending its use for autogenetic welding.

GLASS TRADE REVIEW.

EUROPEAN VIEW OF THE MANUFACTURING GROWTH IN UNITED STATES.

Consul Joseph I. Brittain, of Prague, submits the following report regarding the European view of the progress American glassware manufacturers have made in the past few years:

A recent number of the Austrian Export Industrieblatt issues a note of warning to the Continental glassware manufacturers. The paper advises the European trade to study carefully American methods for manufacturing glassware, especially pressed glassware. It states that the American glass industry has made wonderful progress since 1850, when there were but 5,700 clerks and mechanics employed in the American glass industry, and only \$2,000,000 annually was paid in wages.

It further states that the number of glassworks increased 12 per cent between 1900 and 1905, while the number of workmen increased 21 per cent, invested capital 46 per cent, and production 41 per cent. The article says that in 1905 there were in the United States 399 glassworks with an invested capital of \$89,000,000, an annual output of \$80,000,000 worth, giving employment to 64,000 workmen, and with a yearly pay roll of \$37,000,000.

The opinion is expressed that the American glassworks will in a few years supply the entire home demand, and sharply compete in the markets of the world against Continental manufacturers. Especial mention is made concerning our advancement in the manufacture of plate glass, which was formerly imported largely from Belgium. It is stated that 22 glass furnaces have been obliged to close, which formerly made heavy shipments to the United States.

BOTTLE TRADE—PRESSED GLASS COMPETITION.

The article speaks of the enormous increase in the manufacture of bottles in the United States, which is given at 12 per cent in 1907 over the product in 1906. This increase is attributed to our perfected bottle-making machinery.

Particular attention is called to the fine quality of pressed glass made in the United States, which, the article states, owing to its

peculiar brilliancy and rough edges, closely resembles cut glass. It is claimed that the manufacturers at Cologne and Ehrenfeld, Germany, are bending their energies to equal the American pressed glass and thus prevent its obtaining a foothold in Germany, and other European countries where American pressed glass is finding favor.

The writer of the article appears to be satisfied with the exports of cut glass, hotel and restaurant ware, and the finer grades of Bohemian, German, and French glassware to the United States. He also mentions the exports of colored lamp shades, and certain styles of lamp glasses, as well as fancy colored glass for illuminating purposes, also crystals for watches. The latter article is made almost entirely in Germany, especially in Alsace-Lorraine.

Watch glass crystals are made by hand, and in consequence of the lower prices paid for labor in Germany the American manufacturers can not compete.

SOAP MAKING IN CHINA.

NEW FACTORY ESTABLISHED AT TSINGTAU BY A GERMAN DRUGGIST.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following information regarding soap making in that Chinese city:

A German resident of this city has recently completed the erection of a soap-manufacturing plant in Tsingtau, which appears to be having considerable success. The idea is to manufacture toilet and washing soaps to be supplied to the natives at lower prices than the imported products.

The factory is run entirely by electricity, and has Chinese employees. It is said that pure fat only is used in the manufacture of the soaps, and the toilet soaps are said to be much superior to the imported soaps which can be purchased at anywhere near the same price. The soap is said to be clean, mild, soft, and giving a strong foam in washing, with a delicate perfume, and will stand comparison with much more expensive imported products.

A novelty which has been introduced, and which foreign manufacturers would do well to copy, is the sale of soft soap or smear soap in enamel buckets. This soap is sold in graniteware enamel buckets holding 10 kilos, and sells complete with wooden cover for the bucket at \$3.80 Mexican (\$1.79 gold), a 5-kilo bucket of soap selling at \$2.20 Mexican (\$1.03 gold). The cost of the bucket and soap together is less than the buckets alone in the regular retail shops of the city. This mode of selling appeals particularly to the Chinese, as they are particularly anxious to secure enamelware goods.

TOILET AND WASHING SOAP—OWNER IMPORTS OTHER GOODS.

The soap factory sells its violet, lilac, heliotrope, and lily-of-the-valley scented toilet soaps in cartons containing three cakes at \$1 Mexican (\$0.47 gold) per carton at retail. Other toilet soaps are packed four cakes in a carton and are sold at 50 cents Mexican (23 cents gold) per carton. Family toilet soap comes six cakes in a carton and sells for 50 cents Mexican (23 cents gold). Lanolin soap sells for 15 cents Mexican per cake and shaving soap at 20 cents per cake. Washing soaps come 25 cakes or bars to the case, each bar weighing 2 pounds, and sells for \$5 Mexican (\$2.35 gold) per case.

Tar soap, packed 25 cakes of 2 pounds to the case, sells at \$4.50 Mexican.

The machinery for this factory has been secured from Germany, and the entire plant is owned by Germans. Correspondence or catalogues sent to the firm should be in the German language. The owner of the factory is also interested in the importation of all pharmacists' supplies, as well as photographic cameras and chemicals, to be sold in the local apothecary store of which he is the manager and owner. [The address of the factory is on file in the Bureau of Manufactures.]

SCOTCH RAILWAY EMPLOYEES.

SETTLEMENT OF LABOR DISPUTES BY AN ARBITRATION BOARD.

The following information concerning a scheme of conciliation and arbitration between the representatives of labor and the Scotch railway companies for the settlement of questions relating to rates of wages and hours of labor is furnished by Consul Maxwell Blake, of Dunfermline:

It is proposed to group the various grades of employees into sections, each section to choose by election one or more representatives for each district, and these will compose the employees' Sectional Board to meet the representatives of the company. Under the scheme there will also be formed conciliation boards for each company, to deal with questions of wages and hours of labor which can not be mutually settled through the usual channels.

In the event of the two boards indicated failing to arrive at an agreement the subject of difference is then referred to arbitration. The appealed reference is to go before a single arbitrator, appointed by agreement between the two boards or, in default of an agreement, to be appointed by the speaker of the House of Commons and the lord president of the Court of Sessions, or one of them. The decision of the arbitrator shall be final and binding on all parties.

Each side of the Conciliation Board is to elect its own chairman. Any proposal agreed to by a Sectional Board and rejected by the employees is referred to the Central Board (composed of 14 employees' representatives, 2 from the members of each Sectional Board), and a proposal agreed to by the Central Board and rejected by the employees is referred to arbitration. A proposal agreed to by a Sectional Board and rejected by the employees is referred to the Central Board, and a proposal agreed to by the Central Board and rejected by the employees is referred to arbitration. Where the Central Conciliation Board fail to agree, an arbitrator is appointed, and where the Central Conciliation Board have agreed, but the decision is not accepted by the directors or the employees, the arbitrator is called in as before.

The total number of employees' representatives on each Sectional Board is 8, 2 from the employees in the section in each of the four designated electoral districts. The Central Board is composed as indicated. The company's representatives on each sectional and central board do not exceed the employees' representatives.

As soon as nominations can be made and elections held the scheme will be brought into operation, and it is needless to say its workings will be of much interest to labor and employers of labor everywhere.

ITALIAN FLOUR WAFERS.

UNIVERSALLY USED IN THE KINGDOM FOR MEDICAL PURPOSES.

Consul James E. Dunning, of Milan, in answer to an inquiry, forwards the following report, made by Clerk Siersdorfer, of the consulate, on the flour-wafer trade in Italy:

The flour wafer, composed of flour and water cooked, is used in Italy much more than in the United States for medical purposes. It takes the place of the capsule to a certain extent. A comparatively large quantity is also used in the manufacture of nougat.

Flour wafers used medically sell on the Italian market for from 15 to 18 cents per pound. Lower rates would probably be given for large quantities. A list of manufacturers in Italy accompanies this report.

The manufacturing process of the various kinds of flour wafers in Italy is very simple. The flour and water are mixed and laid on either of two iron plates, and the wafers are pressed to the required thicknesses by moving two iron handles. After this the pressed wafers are cut into any size required by a machine. These mechanisms are manufactured to order by all Italian iron works. There is no special machine as yet introduced or evidently needed in this industry in Italy.

The flour wafer used for nougat is simply rolled instead of pressed. The nougat manufacturers make their own flour wafer, which contains a small percentage of sugar. The flour wafer used by the church in Italy is practically all made in the convents, which are fully equipped for its manufacture.

[A list of Italian manufacturers of flour wafers, the address of a machine maker, and illustrations of both the pressing and cutting machines are filed for reference with the Bureau of Manufactures.]

SPANISH PAPER MANUFACTURE.

A GROWING INDUSTRY—THE QUESTION OF PULP WOOD SUPPLY.

The directing engineer of the Papelera Española has published an important treatise upon the manufacture of paper in Spain, from which Consul-General Benjamin H. Ridgely, of Barcelona, extracts the following observations as being of general interest:

Paper manufacture in Spain has within a short space of time made great progress and is now a well-established industry. A large quantity of paper is consumed here, and it is nearly all produced in the country, in spite of which fact, here as in other countries, the market is in rather an uncertain and unsatisfactory condition. The consumption of pulp for paper manufacture in Spain may be estimated at about 15,000 tons, of which about 4,000 tons are now produced in the country and the remainder is imported from the north of Europe. It is believed that in the present year 10,000 tons will be produced in Spain, so that only about 5,000 tons will have to be imported. It is a curious fact that only 2,500 tons of these 10,000 will be produced with wood of the country, and the remaining 7,500 will be obtained from foreign wood. If it were not for this circumstance, the paper industry in Spain would be still more prosperous. The pulp made from foreign wood is used for the manufacture of white paper for correspondence and newspapers, and the 2,500 tons of pulp produced in the country are used for the manufacture of ordinary wrapping paper.

Manufacturers say that the solution of this condition might be found in the erection of pulp manufactories near the paper mills, and by planting trees suitable for the production of a good quality of pulp; also that the example

given by Italy might be followed; namely, that of planting trees of the poplar variety, which are of rapid growth and possess admirable qualities for the manufacture of wood pulp, the varieties known as Canada and Temblon (aspen) being considered the best. The young trees, it is said, should be planted in a light, newly turned-up ground, each within a radius of 2½ meters (about 8 feet). If these plantations could be made on a large scale, the paper industry could be supplied by home produce and would be independent of foreign importation.

WOMEN EMPLOYEES.

UNITED KINGDOM.

THE LARGE PROPORTION ENGAGED IN BRITISH FACTORIES.

Consul Maxwell Blake, of Dunfermline, finds that a late official return as to employment in factories in the United Kingdom other than textile gives interesting particulars as to the proportion of male and female workers. Out of a total of 307,157 workers in clothing factories, 197,320 were women, the female tailors numbering 46,072 to 13,984 men. Out of a total of 102,489 employed in boot and shoe factories, 31,467 were women; and out of 18,962 lithographic printers, 6,538 were women. In explosives' factories there are 5,538 women employed out of a total of 15,114, while 2,947 out of a total of 12,431 persons employed at bottling beer are women. There are also 25,603 women included in the total of 34,112 workers in tobacco, snuff, and cigar factories.

GREECE.

NEW LAW PERMITS THEIR ADMISSION INTO PUBLIC SERVICE.

Consul-General George Horton, of Athens, supplies the following concerning the employment of women in Greece:

The Chamber of Deputies recently enacted a law by which, for the first time in modern Greece, women are admitted in the public service. In accordance with this law, the director of posts and telegraphs is authorized to employ 50 women, to be used mainly in the telephone service. They are to be between 21 and 35 years of age, and are to receive 70 drachmas (about \$13.50) per month, for six hours' work per day.

LABORERS FOR NICARAGUA.

GOVERNMENT CONCESSION FOR IMPORTATION OF ASIATICS.

Consul José de Olivares writes from Managua that the Nicaraguan Government has given a five-year concession to a Mexican [name on file at Bureau of Manufactures], granting the right to introduce Chinese and Japanese immigrants into Nicaragua for employment as laborers in connection with plantations and other industries in the country. This concession, however, is conditioned on the establishment by the concessionaire, within the period of one year, of a line of steamers from Hongkong, touching at Shanghai, San Francisco, Salina Cruz, and Central American ports, including Corinto and San Juan del Sur.

AGRICULTURE.

FOREIGN FARM PRODUCTS.

RUSSIA.

HARVEST CONDITIONS IN SOUTHERN REGION—EXPORTS OF PRODUCTS.

The following report has been received at the Odessa consulate from Consular Agent Martin, at Rostov on Don, relative to agriculture, the sale of agricultural machinery, wool, and ferromanganese in that part of the Russian Empire for the year 1907:

Crop prospects during the spring of 1907 seemed to promise a very good harvest in the neighboring districts of the northern Caucasus and Don Cossack territory, but, unfortunately, owing to prolonged droughts up to harvesting time, it turned out to be only slightly above the average. There was, however, after the financial crisis of 1906, a revival of trade in consequence of a good demand for grain from abroad and prices rose considerably, especially for wheat and barley. In view of the expected large harvest, extensive sales of grain were made to exporters during the spring, but, owing to the shortage of the crop, only a comparatively small quantity could be delivered against the sales in question, the consequence being that the exporters suffered heavy losses, while the farmers, as a rule, profited by the continued rise in prices. The following table shows, comparatively, the quantities of grain exported from Rostov on Don:

Description.	1907.	1906.
	<i>Tons.</i>	<i>Tons.</i>
Wheat.....	229,817	350,920
Rye.....	196,448	71,318
Barley.....	851,471	286,600
Oats, linseed, and rape seed.....	1,057	8,184

AGRICULTURAL MACHINERY SALES.

Trade during the year in agricultural machinery was very unsatisfactory. There was a falling off in sales of about 40 per cent, as compared with the previous year, in the matter of American harvesting machinery, such as binders, reapers, mowers, and rakes. In order to be able to guarantee the priority on this market for American harvesting machinery, exclusive of Canadian, the principal American manufacturers have formed a combine and have opened a general office here. In the matter of threshing machinery there was during the year a good demand, the sales being 250 sets of English make, 75 of German, and 7 of Austrian. American threshing machinery has been offered at various times on this market, but thus far has not met with success. Ploughs also were well disposed of. These were exclusively of Russian and German make.

WOOL AND MANGANESE.

A fair business was done in Donskoi wool (a coarse, long product) during the year, prices being high, owing to the competition of Rus-

sian manufacturers and the speculators buying for the United States. This wool was found to be superior to the 1906 clip. Prices for greasy wool ruled from \$3.35 to \$3.86 per pood (36 pounds). The total quantity offered here was 215,000 poods, of which 75,000 in the grease were sold to Russian manufacturers, and 140,000 to Rostov firms, who obtained from this quantity after washing 77,500 poods. Of this quantity, 69,000 poods were shipped to the United States and 8,000 went for home consumption, leaving 5,000 unsold. Brook-washed Donskoi "autumns" to the extent of 12,000 poods changed hands and the greater part was forwarded to Germany. Prices were from \$5.15 to \$5.91 per pood. In merino wool there was a good demand for a high quality only, owing to the smallness of Russian Government orders. Prices ruled as follows: Best quality, \$6.95 to \$7.73; medium, \$6.18 to \$6.69½; lower, \$4.50 to \$5.92. Recently there were among wool growers and merchants rumors of a plan supposed to be under consideration at the Ministry of War at St. Petersburg that the material for soldiers' uniforms be made out of Donskoi wool instead of merino, as heretofore. The apparent result would be that merino wool prices would fall about 30 per cent and the demand would dwindle for this class of wool to the benefit of Donskois, which already, in consequence of the annual decrease in the production and gradually increasing demand for Russia, have risen very high in value. The local merino wool growers have petitioned the ministry to abandon this project. As it is, the scarcity and enhanced increase in the value of land in the northern Caucasus have greatly hampered the growing of wool there and many wool growers are thinking of emigrating to Siberia.

During the year 1906 and the spring of 1907, 481,882 poods of ferromanganese were shipped to the United States from Mariupol. The demand in the United States having diminished, and prices having fallen heavily there, the export of this article ceased completely.

AUSTRIA.

BOHEMIAN SUGAR-BEET GROWERS ORGANIZE AND SECURE CONCESSIONS.

Consul Joseph I. Brittain sends the information from Prague that the growers of sugar beets in Bohemia have formed an organization to maintain prices, and have presented a virtual ultimatum to the refiners, demanding higher prices for their beets or no beets will be grown. The consul continues:

Two factors have contributed toward the planters being able to take such a position. During the past years it has been the custom for the refiners to advance money to the planters on the growing crops before they were harvested. By so doing the beet growers would be to a certain extent dependent upon the refiners when the crop of beets was ready for delivery at the sugar mills. This year it is said that the bankers have encouraged the farmers' organization.

Again the prices for grain in Bohemia have materially advanced, making the raising of grain more profitable than raising sugar beets at such low prices.

The refiners, realizing their dependence upon the planters for their supply of beets, have finally recognized the planters' organization,

and have acceded to most of its demands. Last year the price paid for beets was \$3.50 per ton, and this year the price will be \$4.95 per ton. Last year the yield of sugar beets in Bohemia was 4,051,800 tons. By the terms of the agreement between the refiners and planters there is to be no discrimination: The small farmer who produces a few tons of beets will receive as much per ton as his more fortunate neighbor who produces a larger quantity.

BRITISH INDIA.

AREA AND CONDITION OF THE RABI CROPS OF BENGAL.

Consul-General William H. Michael, of Calcutta, furnishes the following information relative to rabi crops of Bengal:

In Bengal the chief rabi crops consist of rice, barley, gram, oats, kalai, mung, peas, khesari, kurti, buckwheat, potatoes, yams, melons, chillies, etc.

The forecast report of the department of agriculture just issued states that the failure of the monsoon prevented the sowing of a normal area in the province, and the dryness of the soil has injured the crops that were sown. The area sown is placed by the report at 5,990,200 acres, which is only three-fourths of the normal area, and the estimated yield will be about 70 per cent of a normal crop. This, on the whole, is not considered bad, yet it is a falling off that will be felt. The rabi harvest will relieve the strain in many parts of Bengal where the high prices of foodstuffs are sorely felt.

DECREASED SUGAR-CANE CROP.

The following information about the sugar-cane crop of British India is furnished by Consul E. Haldeman Dennison, of Bombay:

The final report on the sugar-cane crop in the United Provinces, where half the sugar cane of British India is grown, bears sad testimony to the disastrous consequences of the failure of the monsoon. The area placed under the crop was 1,481,737 acres, the largest on record, being 6.9 per cent above the previous year. For the provinces as a whole the crop is estimated at 60 per cent of the normal, as compared with 90 per cent last year; the outturn of "gur" being calculated at 24,955,000 maunds (maund = 82½ pounds), a decrease of 9,470,000 maunds, or 27 per cent. The prices of the raw product are, however, higher than those of last year.

JAPAN.

INCREASED RICE YIELD NOT SUFFICIENT FOR NEEDS OF THE PEOPLE.

Vice-Consul Walter Gassett, writing from Kobe, says that the official return of the rice crop of 1907 for the Japanese prefecture of Hiogo (Kobe) is given as 10,586,014 bushels. He reviews the crop figures as follows:

The yield was slightly under the average for the four previous years, that of 1906 having been 10,890,524 bushels; 1905, 10,032,353 bushels; 1904, 10,975,170 bushels, and 1903, 10,513,194 bushels. The crop for the whole of the Empire is given as 243,399,485 bushels,

showing an increase of 5.9 per cent, as compared with the previous year and of 11.8 per cent as compared with an average yield. The crop is the largest since 1904.

This may be accounted for by a larger acreage and improved methods of cultivation, but the ratio of increase has not kept pace with the greater demand caused by the growth of the population and the increased consumption of rice among the poorer class of farmers, instead of millet and wheat, and it is estimated that 25,000,000 bushels will have to be imported to make up the deficiency.

IRRIGATION IN PERU.

THE GOVERNMENT ANXIOUS TO EXTEND THE SYSTEM.

Special Agent Charles M. Pepper, in a letter from Lima, gives an account of what has been done in the way of irrigation in Peru and what remains to be done, as follows:

In outlining the market for farm implements in Peru, in a report made some time ago, I referred to irrigation. A number of inquiries were received asking for information as to the prospect of establishing irrigation plants and providing pumping machinery on a large scale. These questions can be answered by a general description. They are timely, because the Peruvian national administration expects to give especial attention to irrigation as a means of inducing immigration from Europe.

Peruvian irrigation can not be compared to the southwest region of the United States or to India and Egypt, where great storage reservoirs are employed. In the coast region, which is the district in which it is intended to encourage irrigation, there are no large rivers. The areas for storage and distribution are dependent on the small rivers. The most extensive irrigation which has been attempted up to the present time is in the northern or Piura section, where the very fine cotton which commands high prices is raised. The system there, which is still in an experimental stage, is that of canals, the Chira Canal being the principal one. Large amounts of money have been spent in developing this canal system, but it is claimed that engineering mistakes have been made which will have to be rectified before satisfactory results can be obtained. In this region there is rain only at rare intervals, sometimes fourteen years apart. The soil, however, is so productive when it can be watered that it justifies the expense and the effort to provide a permanent system.

IRRIGATION ON A MODEST SCALE.

In the northern district of Tumbes, Piura, and Lambayeque, about 135,000 acres are under irrigation, the canals being supplemented by pumping machinery. Windmills are also utilized in obtaining water for domestic consumption, for live stock, and to a limited extent for the crops.

In southern Peru, in the districts of Arequipa, Moquegua, and Tacna, approximately 75,000 acres are under irrigation. In the Arequipa district the Chili River furnishes the means for reservoir storage. Around Moquegua canals are available. Steam pumps are also employed to some extent, and windmills. In all this southern region, from Arequipa to Tacna, there is considerable loss from the small rivers which empty into the sea and whose waters might be

captured and distributed. Windmills and some small steam pumps are employed, while there are artesian possibilities. On the high pampas of this region reservoirs have been projected and a canal system also has been proposed, but there has been no actual attempt at irrigation on a large scale. In the Tambo Valley, where the pampa is about 1,000 feet above sea level, hydraulic pumps have been suggested, but the opinion of the engineering experts is that they would prove too costly. On the pampas generally the water is found too far below the surface to be pumped. In the valleys the subterranean waters can be raised by this means. In the rich valley of Ica, where there is a regular annual rainfall, and farther north, in the Cerro de Azul district, where the rainfall is greater, irrigation on a large scale is practicable. These valleys produce cotton, sugar cane, a great variety of fruits, and have vineyards which are famous.

In northern Peru, around Sechura and the adjoining regions, the borings have given negative artesian results except in the alluvial deltas. The arid plains between the valleys have been declared to be too saline for cultivation. But there is a large tributary region which is thought to be capable of irrigation.

EXPERTS FROM THE UNITED STATES GIVE AID.

The Peruvian Government for several years past has had American experts from the United States Geological Survey and the Reclamation Service engaged in testing the possibilities for irrigation. These experts are making a series of reports, which indicate the most favorable regions and the conditions under which irrigation should be carried on. The work is done under the direction of the Mining Institute, which is a branch of the Department of Fomento or Public Improvement. The reports are published in Spanish, and they form a valuable series. They are illustrated by maps which are very instructive features. [A set of these reports, with the accompanying maps, is filed with the Bureau of Manufactures.]

As a result of the investigations already made it is estimated that approximately 2,500,000 acres of the Peruvian coast region is capable of irrigation, of which between 800,000 of 1,000,000 acres are in the valley districts. The ease with which the coast is reached and a market obtained for the products secured by irrigation is one reason for encouraging irrigation enterprises, though heretofore many of these have failed when undertaken by private individuals or companies. The legislation designed to encourage projects of this sort is liberal. It provides the mode of occupation for the lands, regulations for the protection of the owners, and other important subjects. The laws and regulations are contained in the Irrigation Code of 1903.

GOVERNMENT AID, BUT NOT FINANCIAL SUPPORT.

Some of the large landowners have sought the cooperation of the Government in their irrigation plans and this has been given them, but not to the extent of providing financial support. There is a very general desire to secure American capital under the direction of Americans who have had experience in practical irrigation work in the United States. Very many promising schemes exist on paper, but they lack a practical direction. Years ago Henry Meiggs, who built the Peruvian railways, planned an extensive irrigation system for the Chimbote district in the north, with a model town and model

farms, but after his death no one was found to carry it forward. Since the whole subject has been taken up again by the Peruvian Government, American manufacturers of irrigation machinery who desire to establish large plants, and also American capitalists who may want to take advantage of the richness of the Peruvian soil when irrigated, have available means of information. Peru's leading crops—sugar, cotton, and rice—are all irrigation crops.

GROWING WHEAT IN BRAZIL.

GOVERNMENT INVESTIGATIONS AND TESTS IN VARIOUS SECTIONS.

Consul-General George E. Anderson, of Rio de Janeiro, states that in view of the one time great trade in American flour in Brazil, and as bearing upon the continuation of that trade for which many American exporters are now working, in connection with the preferential tariff reduction Brazil offers on American flour, the reported results of recent official and private experiments in wheat growing in the State of Rio Grande do Sul are of unusual interest. He reviews the outlook as follows:

The State of Rio Grande do Sul, the southernmost State of the Brazilian Republic and the one therefore with the coldest climate, has long been pointed to by Brazilian statesmen as a possible granary for Brazil. It has been thought that modern and scientific culture of wheat in the State would do much toward removing Brazil from its present necessity of importing all its breadstuffs, and there has been a strong movement from time to time toward fixing a higher duty upon foreign wheat for the protection of the Brazilian product.

In line with these ideas and in response to the demand of capital for actual practical information as to the possibilities of wheat growing in Brazil, an organization was formed in Rio Grande do Sul and a wheat-growing expert from Germany was brought over to conduct the experiments. This expert has been at work for the past two seasons, and in the course of his work has gone over the possible wheat-bearing area of the State quite thoroughly. At first he examined the country along the railway from the city of Rio Grande do Sul to Bagé, a distance of about 150 miles. The country in the vicinity of Porto Novo and Pelotas, cities of considerable importance, and a district of which much was expected, was found to be entirely unsuited to wheat growing. Further in the interior better results were had, and the country about the rivers Candiota, Jaguarao, Jaguarao-chico, and the Negro was found to be capable of producing rather fair grain.

GOVERNMENT EXPERIMENTS.

In the course of the work experiments were conducted as far north as Cruz Alta and as far south as Jaguarao and to the west as far as Uruguayana. The territory which the investigator found most suitable to wheat growing was that of Uruguayana and Quarahy, a comparatively small area in the extreme western portion of the State in a wedge-shaped district extending between Paraguay and Uruguay. Similar land suitable for the grain was also found extending along the southern border of the State from Uruguayana to D. Pedrito, but the entire area was limited.

Along the southern border of the State in the district mentioned the State purchased a number of sites for extensive experiments, the work being handicapped by the extremely high price placed upon the land by its proprietors as soon as the possibility of wheat raising became known. On the State land seven varieties of wheat were tried, those common to northern Europe, two varieties common in Italy, a new variety of Italian wheat, and the variety of wheat heretofore raised for various purposes in the State. As a result of the first year's work it was shown that the varieties of wheat common to northern Europe were not suited to growth in Brazil. The two Italian varieties, Barletta and Rieti, both acclimated to the Argentine, gave fair results. The native wheat also made good return and a new variety of Italian wheat, the Fucense, gave indications that it would probably be easily acclimated.

During the last season experiments were continued with those varieties of the wheat which had given the better results during the first season. The average result was considered that shown by one lot of land where 6 hectares of land, well sown and intensively cultivated, produced 4,600 kilos of wheat (substantially 12 bushels to the acre), the common native wheat being used. The season was exceptionally dry and the experimenters considered that this indicated a probable yield of 1,200 kilos per hectare in an ordinary year (about 19 bushels to the acre).

TIME FOR SOWING—ULTIMATE CONCLUSION.

It was found that the best time for sowing depends almost vitally upon the season. An early winter makes it advisable to sow about the middle of June (equivalent to December in the northern hemisphere). A later season makes it advisable to postpone sowing for a month. Early sowing requires about 60 to 70 kilos per hectare (about $\frac{7}{8}$ to 1 bushel per acre), while late sowing requires half as much more. Late sowings bring the harvest in better season. In growing the grain a medium depth of soil over the seed is required. Modern implements, especially drills, are an absolute necessity if the crops are to be relied upon, and it is certain that the grain can not be grown generally by the people without considerable education along practical agricultural lines.

The ultimate conclusion of the authorities and the individuals concerned in the experiments, based upon the work of the expert, is that while wheat can be produced in considerable quantity in the State it is doubtful if it can be grown commercially at the present time. The delicate nature of the crop as grown in Brazilian soil and under Brazilian conditions renders growing it a hazardous undertaking in a country where nearly all the farming is by the most primitive methods. The controlling feature of the situation, also, is that the cost of producing the grain, owing to the scarcity and high price of labor, the cost of transportation, and the price put upon land suitable for it, renders it prohibitive. With Argentine wheat admitted at a duty of 10 reis per kilo (0.386 cents per 2.2 pounds) the limited fields of Rio Grande are not likely to compete with the immense wheat district of its neighbor to the south. It seems to be established that at best Rio Grande do Sul, the most suitable district in Brazil, is nevertheless not a wheat-producing district, and that any wheat grown there would be more or less a forced crop.

INDIA'S OPIUM CROP.**OFFICIAL STATISTICS OF PRODUCTION, SALES, AND REVENUE.**

Consul-General William H. Michael, of Calcutta, states that the opium department of India has recently made a report covering the season of 1906-7, which contains the following interesting statistics:

Most of the poppies grown in India are produced in the agencies of Bihar and Benares, the former embracing about 106,000, and the latter about 215,000 acres, a slight decrease in area in both agencies. The weather conditions throughout both agencies have been unfavorable, and the crop under irrigation and without irrigation is comparatively poor. In the Bihar agency the average produce per license fell from about 120 pounds to about 85 pounds during the year. The fall is due entirely to the disastrous character of the year, as the early part was unusually dry and hot, and therefore unfavorable for sowing, while the latter part was wet, damp, and cloudy, and unfavorable for the collection of the juice.

In the Benares agency also there was a fall from about 214 pounds to 196 pounds per license, attributable to the generally unfavorable character of the season, especially in the eastern districts.

The general average of the consistence of the drug in the Bihar agency for the year was 72.69 degrees, as compared with 74.68 in the previous year, showing a fall of 1.99 degrees, due to the unsettled weather before and at the time of collection of the drug. The consistence was best in Aliganj, Motihari, and Hazaribagh, where it exceeded 74 degrees, and was worst in Monghyr, where it only averaged 69.38 degrees, a decrease of 2.60 on the previous ten years' average of this subagency.

The character of the season in the Benares agency was also reflected in the consistence of the opium produced there which worked out at 67.35 degrees, or about $2\frac{1}{2}$ degrees below the ten years' average consistence for the agency. This is about the same as the average for 1892-93 (67.30 degrees), but much lower figures were reached in 1900-1901 (65.80 degrees), and in 1885-86 (64.80 degrees).

VALUE OF THE CROP—CHESTS AND CAKES.

In the Bihar agency the value of opium delivered by cultivators was \$1,705,085. The payments made for this opium were (1) at settlements, \$773,922; (2) at weighing, \$928,837; (3) at final adjustments, \$88,284, giving a total of \$1,791,043, or \$85,958 in excess of the value of the opium.

In Benares the value of the opium delivered was \$5,732,681. The payments made for this opium were (1) at settlements, \$1,372,843; (2) at weighing, \$3,910,749; (3) at final adjustments, \$530,776; giving a total of \$5,814,368, or \$81,687 in excess of the value of the opium.

Two thousand six hundred and seven chests, 285 cakes were manufactured this year at Patna, against 2,283 chests, 30 cakes last year. The aggregate cost of the manufacture of this opium was \$3,126, giving an average of about \$1.20 per chest compared with \$1.25 the previous year, showing a decrease of about 6 cents per chest manufactured. This is due to the larger amount manufactured.

At Ghazipur 473,400 pounds or 3,945 chests were manufactured during the year; and the cost of manufacture of a chest of excise opium was about \$1.86 as against \$1.88 in the preceding year. The

difference in the cost at the two factories is chiefly due to the difference of the average consistence of the raw opium produced in the two agencies, the Benares opium requiring more labor and manipulation to raise it to the required consistence.

During the calendar year 1907, 50,400 chests of provision opium were sold in equal proportions from Bihar and Benares, and the average prices realized for a chest from each agency were \$465 and \$445, against an average of \$456 in 1906. The total sale proceeds in 1907 amounted to \$23,058,491. The total cost of manufacture of the produce (including Presidency charges, etc.), amounted to \$4,166,395 in Bihar and to \$4,317,203 in Benares, or a total of \$8,483,598, giving an average cost per chest of \$168.33. The net revenue derived from opium during the two calendar years 1906 and 1907 amounted to \$15,137,364 and \$14,574,893, respectively.

LIVE STOCK INDUSTRY.

CHINA.

CATTLE SHIPMENTS TO VLADIVOSTOK—THRIFTY LOCAL DAIRY STOCK.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following report regarding cattle in the Chinese province of Shantung:

An American firm is busily engaged at this place in exporting cattle to Vladivostok, over 1,000 head having been shipped during the past month. The representative of this firm enters the interior of the province and purchases cattle directly from the Chinese owners, or in the regular market towns, where all kinds of produce are exposed for sale at regular periods of five days. Exports to the Philippine Islands were formerly made from Shantung, but, owing to the prevalence of anthrax and other cattle diseases, the importation into the islands was prohibited. Last year the Chinese Government prohibited the export of cattle from China to Vladivostok, but apparently the prohibition has been since removed. Recently the importation of cattle into Vladivostok was prohibited by the Russian Government officials, but this restriction has, according to later advices, been removed, and it seems probable that future shipments will be made.

Cattle are not grown in China to any great extent; there are no large cattle ranches, each small farmer raising such stock as he may himself need. Cows are not used for milk by the Chinese people, but are yoked with oxen, or with any other available animal, and used in cultivating the fields. Foreign buyers can afford to pay prices which appeal to the owners of cattle, and it is feared that, if large exportation continues, the country will be depleted of this class of draft animal.

COWS FOR MILK—FOREIGN BREEDS.

In a few places in the province, especially those towns where Occidentals are living, the Chinese raise cows for milking purposes, and even the better-class natives are taking kindly to the use of milk. It is the fear of typhoid germs in the milk that makes the sale of the tinned products so large among the foreign population of this country.

Efforts have been made to introduce German cattle in Tsingtau, but without success. The local cattle are apparently more or less im-

mune from the effect of anthrax and other diseases, as they continue living and thriving even with these diseases prevalent about them. Foreign cattle, however, die almost immediately. A few years ago the German Government brought out a dozen of the finest breeds of German cows, but within two weeks after arrival they had all died. Last year Doctor Martini, a German bacteriologist, for many years chief assistant to Doctor Koch, was sent out here to investigate the cattle diseases, and endeavor to eradicate them within the German territory. He informs me that so far as he can discover the prevalence of anthrax has been greatly exaggerated, although undoubtedly other cattle diseases exist.

After a year's investigation it was decided to bring out another shipment of German animals, which were sent from Germany in December last, and should have arrived here by the Government transport in February. The cattle were in charge of a chief veterinary surgeon of the army, but unfortunately the ship on which they were transported, in company with 1,100 troops, was unsupplied with cold-storage appliances, and consequently was obliged to take on a stock of cattle at Suez for fresh meat. Some of these latter animals were apparently infected, and the entire lot of German cattle died before arrival of the ship at Tsingtau.

LARGE PERCENTAGE OF FAT—BUTTER EASILY MADE.

I am informed by Doctor Martini that a most curious fact has been discovered by him and his assistants in relation to the percentage of butter fat contained in the milk of the Chinese cows. These locally grown animals are much smaller than our home cows, and give a much smaller quantity of milk, but it contains 7 to 8 per cent fat, while cows' milk in the United States seldom yields more than 2 to 3 per cent fat, and 4 per cent is considered extraordinary. This increased percentage of fat is said to be due to the bean cake fed to the animals here. Peanuts and beans are grown throughout this province in large quantities, and crushed into peanut oil and bean oil, which is exported in large quantities. The refuse from the mills is pressed into round cakes, measuring about 18 inches in diameter and 2 to 3 inches thick, which is largely exported to Japan for use as a fertilizer, and is fed to cows, oxen, and all draft animals. The bean cake when used is pounded up in rough granite mortars and mixed with the animals' food, and all domestic animals in this country seem to appreciate its peculiar flavor.

The large percentage of fat contained in the milk here makes it unsatisfactory for drinking purposes, especially for children, but it produces excellent butter in large quantities, there being very little waste material, and it is so easily manufactured that merely shaking the milk in a stoppered bottle for a few moments will produce butter.

ARGENTINA.

ANIMAL STATISTICS OF THE REPUBLIC.

Consul-General Alban G. Snyder sends from Buenos Aires a tabulated list from a report just issued by the Minister of Agriculture showing the numbers of live stock in Argentina. They total 114,842,440, divided as follows: Cattle, 25,844,800; sheep, 77,581,100; horses, 5,462,170; mules and donkeys, 545,870; goats, 2,566,800; pigs, 2,841,700.

The province of Buenos Aires contains one-half of the live stock of the Republic, having 7,000,000 cattle and 48,000,000 sheep. Entre Rios Province has 9,006,300 animals, Corrientes 7,911,000, and Cordoba and Santa Fe each nearly 7,000,000.

JAMAICA ANNATTO CULTURE.

A DYESTUFF MATERIAL MOSTLY EXPORTED TO THE UNITED STATES.

Consul F. Van Dyne reports, from Kingston, that, besides log-wood and fustic, the trade in which he has already reviewed, there is another product of Jamaica which is used to a considerable extent for dyeing purposes, which he thus describes:

This is annatto (*Bixa orellana*), which is employed in coloring butter and cheese, and as a dye for calico, silk, wool, skins, feathers, ivory, and bone. It produces a fast color of both yellow and red tints.

The plant producing annatto dye is a native of the West Indies and other parts of tropical America. It is a small shrubby tree, attaining a height of 8 to 12 feet. It has heart-shaped leaves and bears at the ends of the branches loose bunches of rose-colored flowers. The fruit consists of miter-shaped capsules, covered with soft spinules, and splitting into two valves, on the inside of which are attached seeds covered with a thin coating of reddish waxy pulp, the botanical name of which is the testa. This waxy substance, when removed, is the dye known as annatto. The nature of this dye was known to the warlike Caribs who inhabited the Lesser Antilles when America was discovered by Columbus, and they used it as a pigment to paint their faces and bodies.

The plant is grown entirely from seed, which is sown before it is entirely dry, in nursery beds made in shady places. It is a hardy plant and will grow, in suitable climates, on almost any soil except soils that are swampy, but it gives much larger returns when cultivated on rich lands such as the banks of rivers and well-drained alluvial flats. The best climate for it is one where the temperature ranges from 75° to 80° F., and the rainfall is abundant.

PLANTING AND HARVESTING—EXPORTATIONS.

When the seedlings are about four months old, at which time they should be 6 to 8 inches high, they are transplanted, being set in holes from 6 to 12 feet apart, according to the character of the soil. The land is kept clear of weeds, which are hoed up and buried in trenches between the plants. Full crops can not be expected under three or four years, but seeds may be gathered in eighteen months or even earlier. It has been calculated that the first full crop will yield about five hundredweight of seed to an acre, and this will increase for several years.

When the capsules split open and show the seeds, they are gathered by women and children, the seeds extracted and dried in the sun. The seeds are valuable solely for the yellow waxy testa which envelops them.

The seeds are put in a tub of boiling water, and the mass is stirred so as to wash off the waxy testa from the seeds. After some days it is passed through a sieve and the liquid is left for a week to ferment, and to allow the dye to settle. The clear water is then decanted off

and the deposited dye is allowed to evaporate in shallow pans. When the substance is of the consistency of putty, it is molded into rolls, wrapped in banana leaves, and becomes the annatto of commerce. The cakes are usually packed in casks for export.

In Jamaica annatto is almost entirely the production of the peasant class. The amount of annatto exported has steadily grown. In 1882 only 147,000 pounds were exported, while during the fiscal year 1905-6 the exports reached 457,248 pounds.

Owing to the drought of last year, the crop was materially curtailed, and the exports were only 290,573 pounds. Of this, 204,730 pounds went to the United States. [The imports of annatto into the United States for the fiscal year 1906 amounted to 281,574 pounds, worth \$22,156, and for the fiscal year 1907 to 651,595 pounds, worth \$51,128.—B. of M.].

COLONIZATION IN ARGENTINA.

GOVERNMENT CONCESSIONS FOR FARMS IN THE RIO NEGRO VALLEY.

Consul-General Alban G. Snyder, of Buenos Aires, furnishes a translation of a decree issued by the President of Argentina covering the conditions for settling the General Roca colony in the Rio Negro Valley, it being impossible to apply the general rules of existing decrees to that region.

The preamble to the decree recites that the expense incident to reducing those lands to agricultural uses places them beyond the reach of colonists without capital, for which reason the lands possessed by parties without means are still uncultivated, while the lands of parties with capital are in full prosperity. Therefore the Executive desires to distribute those lands to persons in a position to cultivate them to their full extent, to stimulate the increase of national production. The many applications for lots by persons desiring to invest sufficient capital therein leads to the supposition that, as the works for regulating the volume of water have been completed, the colony can be settled in the form of a large industrial center, which would serve as a model to the proprietors of 500,000 hectares (1,235,500 acres) of the land in the valley of the Rio Negro; that although the law in force only permits each person or society to hold two lots this does not prevent them forming a cooperative society for the purpose of collecting funds for the execution of the works, conserving without transference the ownership of the land, etc.

REGULATING CONCESSIONS OF FARMS.

In view of these considerations the President of the Republic decrees the following regulations under which lots shall be granted hereafter to petitioners who are willing to accept the following conditions:

ART. 1. To close, level, clear, sow, and plant with their own capital the fourth part of the lots granted within two years, one-half in three, and the total in four years, being only relieved from this obligation in those parts which the agronomical inspector of the Government declares it impossible.

ART. 2. Promise to construct in the territory obtained by each party a dwelling house of at least three rooms, and to cede without compensation and as an obligatory service the necessary land for the construction of irrigation canals

to any company established for that purpose as well as to neighbors who wish to construct canals to carry water to their respective lots. The same shall apply to roads or works of public interest which the authorities may decide to execute.

ART. 3. As a guaranty for the strict compliance of the obligations imposed in the former articles they shall, before taking possession, deposit in the Bank of the Argentine Nation to the order of the general division of lands and colonies \$1,000 for each lot of 100 hectares (247 acres), which, should conditions be not fulfilled or the corresponding forfeiture be filed, shall remain the property of the Government.

Said guaranty, consisting of cash or national titles at their market value, shall be returned only when all works mentioned in article 1 have been executed.

ART. 4. In future the price of land in the colony General Roca shall be \$50 for each hectare (2.47 acres), payable in the manner determined by the present law, and without admitting advance in any case.

ART. 5. Those obtaining lots shall have the right to ask for a reduction in price, bringing it to \$2.50 the hectare, the minimum fixed by law, provided they accept certain conditions. [These conditions may be read at the Bureau of Manufactures.]

ART. 6. In the distribution of the lots preference shall be given to the petitioners signing the petition presented to the Ministry of Agriculture under date of August 16 last, which petition has caused the present decree, and after these they will be taken in their respective order.

ART. 7. The by-laws of the cooperative society for the irrigation in the colony General Roca shall be submitted to and approved by the Department of Agriculture, Commerce, and Industries.

GINGER GROWING IN JAMAICA.

THRIVES WELL IN WEST INDIAN ISLAND—DROUGHT CURTAILS YIELD.

In stating that one of the best-known products of Jamaica is ginger (*zingiber officinale*), Consul F. Van Dyne, of Kingston, sends the following description of its culture and exportation:

Ginger is the dried underground stem of a plant which grows wild in southeast Asia and in the Malay Archipelago, and is cultivated extensively in South America and the West Indies, particularly Jamaica. The ginger produced in Jamaica is recognized as of superior quality and commands more than double the price of any other. The botanical name of the stem is rhizomes, the real roots of the ginger plant being the fibers which are given off from the rhizomes. Leafy shoots rise from the underground stems to a height of 1 to 3 feet, according to conditions of soil and climate. The plant bears a blossom on a stalk separate from the leaves. Ginger requires a rich soil, well drained, rich vegetable loam being best adapted to its cultivation. These conditions being met, it may be grown from the sea level to high mountainous regions, provided the rainfall be abundant or irrigation be adopted.

The plant is propagated by division of the rhizomes, each rhizome being carefully divided into small pieces, pains being taken to leave at least one shoot bud on a cutting. The cuttings are at once set out in the field in holes that have been specially prepared for the purpose at distances of about a foot apart. It is essential that the land should be well cleaned and trenched, the weeds and rubbish being buried in the trenches to enrich the soil. The best time for planting is in March or April. The plant is cultivated in much the same way as the potato. Manure is generally placed in the holes when the

planting takes place, and also spaded into the ground when the same land is used for several years in succession.

HARVESTING AND MARKETING THE CROP.

The plant is in blossom about September. Thereafter the shoots wither, and the rhizomes increase in size, and by January or February the spice is ready to gather. The plant is dug out of the soil with a fork, care being taken not to injure the rhizomes or hands, as they are termed in Jamaica. The hands vary in size, some being very large and weighing over half a pound.

After the hands are divested of the fibrous roots and all adhering mold and dirt, they are scalded for some minutes in boiling water, to destroy their vitality, and then dried in the sun, when they become the ginger of commerce. The darker kinds are sometimes bleached by exposure to fumes of chloride of lime or burning sulphur. What is known as "scraped," "uncoated," and "white" ginger is prepared by scraping the hands with a knife until the dark outer skin is removed, and then drying them in the sun. When cultivated under favorable conditions, an acre of land will produce as much as 4,000 pounds.

Ginger is shipped in bags, which generally contain a hundred-weight each of the spice. There is a considerable acreage of land under cultivation of ginger in Jamaica, mostly in the hands of small settlers in the southern part of the island. During the last fiscal year about 1,400,000 pounds were exported from this island, about 650,000 pounds being taken by the United States, and 600,000 by Great Britain. Canada took nearly all the balance. The crop last year was little more than two-thirds the usual amount, because of the severe and long-continued drought in the island. Preserved ginger is prepared here and exported only in small quantities.

TEXTILES.

PRODUCTION OF SILK.

CHINA.

CULTURE OF WILD SILKWORMS IN MANCHURIA A PAYING INDUSTRY.

Consul Wilbur T. Gracey, of Tsingtau, transmits a memorandum prepared by the commissioner of customs at Antung, and published in a newspaper in China on the culture of wild silkworms in Manchuria, from which the following extracts are taken:

The wild silkworm of southeastern Manchuria, commonly called by Chinese shan-ts'an, and classified by Hosie as the *Antherea pernyi*, otherwise known as *Bombyx pernyi* and *Bombyx fantoni*, produces much of the silk used in the manufacture of pongees throughout China and Japan.

To the farmers of this region the industry has become a most profitable supplement to their agricultural work, for practically all landowners, whose boundaries include hilly ground, make silk raising a part of the regular routine of their household. Although in many places the hills have not the necessary scrub oaks, on the leaves of which the worms feed, it has been demonstrated that these can be easily grown, so that with nearly perfect climatic conditions there seems every likelihood of the industry expanding indefinitely to meet the increasing demand in many countries for both the wild silk and the pongee.

This probability is also increased by the announcement of two recent inventions in Tokio, which should bring tussah upon the market as a competitor with the domestic raw silks of China and Japan. The first is a new process for bleaching the silk, which will render it amenable to dyeing, and the second is a spinning machine which makes a smoother and more uniform thread than is now procurable.

PRODUCTION, PRICES, WEIGHT OF, AND MARKETING COCOONS.

Conservative estimates place the silk-producing qualities of these cocoons at from 5½ to 8 ounces avoirdupois from 1,000 spring cocoons, and the amount from the heavier autumn cocoons at from 8 to 12 ounces and from the pierced cocoons about 5½ ounces.

The cocoons of different years yield different average amounts of silk, so that their market value depends upon two factors: The price of silk and the silk-producing qualities of the season's crop. Seven or eight years ago the average price of a picul (133½ pounds) of wild, raw silk was £25 sterling (£1=\$4.86), while the extreme quotation within a few years of that time reached 200 haikwan taels (1 tael=about 70 cents).

In 1907 the highest figure ever known to local merchants was reached, when silk sold for 206 taels per picul, whereas the average price has of late years been 162 taels.

With the cost of the raw material just covered by the returns from the silk spun, the filature owner looks to the by-product of waste silk, approximately equal in weight to the pure silk, to pay for the labor of spinning and to provide the profit.

When just fresh from the trees the autumn cocoon averages about 13½ pounds per 1,000; while the cocoons in the spring, after the chrysalides have been killed and dried by the exposure of the winter, do not exceed from 8 to 10 pounds. The pierced cocoons weigh about 2½ pounds per 1,000.

To prepare these cocoons for shipment, the countrymen put about 30,000 in a basket woven of willow twigs and shaped much like a hogshead, which he buys from the weavers at from 50 cents to \$1 gold. Although these vary in capacity and weight, the average is about 30,000 cocoons, weighing 400 pounds net in the autumn, and 35,000 cocoons, weighing about 330 pounds in the spring. Two or three of these baskets are placed on the Manchurian cart, and on arrival in town the baskets are taken to the sheds of the commission houses, where they are dumped and repacked.

During 1907 the total number of such baskets leaving Antung, Manchuria, was about 26,000, with a total net weight of cocoons of over 10,666,667 pounds. Of these, more than 23,000 baskets were destined for Chefoo, China, and the balance for Japan. [The remainder of the memorandum, covering the nature of the soil, the trees on which the worms feed, and the culture of the worms, is on file in the Bureau of Manufactures.]

SHANTUNG SILK EXPERIMENTS.

WHITE FIBER PRODUCED FROM WORMS FED ON OAK LEAVES.

The following information concerning the discovery of a process for bleaching silk produced by worms fed on oak leaves is also furnished by Consul Gracey:

The silk manufactured in Shantung is of two qualities, white and pongee. The peculiar yellow-brown color of pongee silk is due to the fact that the silkworms which produce it are fed on oak leaves instead of mulberry leaves. Numberless experiments have been made endeavoring to make the silk woven by the worms fed on oak leaves as good white as that produced by the mulberry-fed worms, but it has remained for German experts to work out the process.

After the failure of a British company, some five years ago, which had made extensive and continued experiments with a solution of soda, a German-Chinese company erected a silk filature at Tsangkow, about 10 miles from Tsingtau, with the purpose of continuing the experiments, which, it is understood, have now resulted, through German specialists, in producing the finest silk made in the province of Shantung. It is similar in quality to Japanese silk, and the venture, as far as the product is concerned, is a pronounced success.

It is impossible for the company to secure a sufficient number of laborers who will remain long enough to learn the business and then continue in its service, and it has not yet been able to produce to the full extent of the factory, notwithstanding that Shantung is the most densely populated province in China—thousands of whom are emigrating annually to Siberia and other countries. [The company's address and a photograph of its works are on file in the Bureau of Manufactures.]

FRANCE.

ARTIFICIAL SILK MAKING NOT YET BROUGHT TO PERFECTION.

The ex-president of the Amiens Chamber of Commerce recently delivered a lecture on the development of artificial silk making, from which Consul William H. Hunt, of St. Etienne, furnishes the following extracts:

The three processes for the manufacture of artificial silk are the nitro-cellulose, the cupro-ammoniacal, and the viscose. I have seen various samples of the fibers obtained by the nitrocellulose process, either bleached or dyed. Their brilliancy is perfect, but their resistance, especially when wet, leaves much to be desired. Here is the serious defect in all artificial silks, to remedy which all efforts have been tried in vain.

The principles of the cupro-ammoniacal process produce silk that is radiant and holds together easily. Its cost of production is less than by the nitro-cellulose process. The silk produced by the viscose process has the same qualities and defects as the others, but it is more economical. To remedy the lack of resistance of artificial silk, especially when wet, hundreds of processes have been proposed, but no one of them has given satisfaction, although a producer in Lyon claims that his process is really effective.

For certain uses artificial silk may be substituted for the real silk; it has more brilliancy, but less suppleness and a different touch; its greatest defect, however, is that of being less resistant, especially when wet. Another difficulty is its specific weight, which is 10 per cent greater than the real silk and gives for the same weight a very important diminution of returns. They hope one day, however, to remedy these defects, and that the consumption of the product will become much greater.

The present annual production of artificial silk is as follows: Nitrocullulose silk, 2,645,000 to 3,300,000 pounds; cupro-ammoniacal silk, 2,200,000 to 2,645,000 pounds; viscose silk, 880,000 to 1,100,000 pounds. France produces between 1,100,000 to 1,240,000 pounds of the three kinds. The cost of production varies, according to the process employed, from \$1.93 to \$2.90 per kilo (2.2 pounds).

FIBERS.

MEXICO.

EXPORTS OF HENEQUEN FROM THE STATE OF YUCATAN.

Vice-Consul-General C. Piquette Mitchel reports from Mexico City that the exports of sisal hemp (henequen) from the port of Progreso, Yucatan, for the months of January, February, and March were in numbers of bales as follows:

Destination.	Janu-ary.	Febru-ary.	March.
United States.....	40,675	47,025	42,447
Canada.....	2,992	8,741	8,510
Cuba.....	908	500	2
England.....	348	208	
Spain.....	166		
France.....	100		
Germany.....	87		
Total.....	45,224	51,474	45,959

It is reported that the henequen growers of Yucatan, with a view to securing better prices, are withholding from shipment about one-half of their crops, and have secured loans in furtherance of this end.

Since the vice-consul's report was written the Mexican Herald of May 23 published the following:

Many prominent hacendados of Yucatan who had compromised themselves with the Camara Agricola to hold their stock until the fiber reached 22 reales an arroba have broken faith with the organization and sold their stock, which

has resulted in the Camara Agricola being obliged to sell at 17½ reales an arroba. On account of the forced sale the speculators immediately knocked off \$2 an arroba from the price, and a still further decline is expected. The sale made by the Camara Agricola was 20,000 bales.

BRITISH SOUTH AFRICA.

HEMP CULTURE PROMISES WELL IN THE COLONY OF NATAL.

Consul Edwin S. Cunningham, in transmitting a report on the fiber industry of Natal, says that he has had requests for samples of the fiber grown and dressed in that South African colony. The consul has been informed that the absence of efficient machinery for handling the fiber has prevented a satisfactory treatment of the product, and growers prefer not to send abroad samples which might prejudice the industry before the correctly treated article is ready for exhibition. Mr. Cunningham writes from Durban as follows:

The great depression which has held South Africa in its grasp the last few years has been the means of turning attention to the soil to find relief, and in Natal, the garden colony, it has met with better results than in other portions. In Natal there are also found vast areas which, for climatic or other reasons, are unsuitable for the culture of the staple articles, and, owing to their fertility, are too valuable for waste lands. To such lands many are looking, and they believe that in them is found land well adapted for fiber culture. For many years there has been some culture of fiber in Natal, but not until recently has it attained such proportions as to entitle it to be classed as one of the industries of this colony.

There are many species of fiber known to Natal, a number of them indigenous. It has been reliably stated that there are 31 species of *Gomphocarpus* to be found indigenous, but only two of them are likely to be of any commercial value. Samples of *Gomphocarpus physocarpus* have been prepared for exhibition, and reports have shown it, when properly prepared, equal to manila hemp in value, but its culture has not been extensive. The American aloe, although exotic, grows extensively in certain districts, as does the imported sisal hemp of Yucatan; the latter has been cultivated considerably, and during the past two years its culture has greatly increased.

SUCCESS WITH MAURITIUS HEMP.

The fiber plant having the most extensive growth and cultivation is called locally aloe fiber, and is probably the Mauritius hemp, or *Furcroea gigantea*, and the consensus of opinion seems to be that the culture of this Mauritius hemp is the most practical for the present, as the plants are easily obtainable for all possible planting; the soil and climate are wonderfully well adapted to its culture, and the fiber produced is excellent. If, eventually, sisal hemp should prove to be the better from a commercial standpoint the change from Mauritius hemp can be gradually effected. Certainly for a number of years to come the bulk of the fiber produced in Natal will be from the Mauritius hemp. A sample bale of this fiber, sent to the South African Products Exhibition in London, was reported on as follows by the director of the Imperial Institute:

The sample consisted of 5½ ounces of fairly lustrous white fiber, which was fairly well cleaned and prepared. It was of fair but uneven strength. The

length of the sample was four feet. The chemical examination of the fiber gave the following results: Moisture 9.3 per cent, ash 0.9 per cent, (a) hydrolysis loss 12.7 per cent; (b) hydrolysis loss 14.7 per cent, acid purification loss 1.7 per cent, cellulose 75.5 per cent. The sample was submitted for commercial valuation to experts, who described it as corresponding fairly well with "good, fair quality" Mauritius hemp, and valued it at £26 10s. (\$128.96) to £27 10s. (\$133.83) per ton. At the time of this valuation Mauritius hemp was quoted in the London market at £25 (\$121.66) to £30 (\$146) per ton. The above results indicate that the fiber is of fairly good quality and very similar to other samples of *Furcroea gigantea*, which have been examined at the institute.

The analysis shows Natal fiber to contain a very low percentage of ash, and a percentage of cellulose equal to an average found in *Furcroea gigantea* from other parts of the world.

TENSILE STRENGTH—CULTURAL METHODS.

Rope manufactured from the same fiber, I am informed, was sent to the Government Engineering Laboratory, Pretoria, to be tested as to its breaking tensile load, and the result was an average breaking load of 1½ inches Natal fiber rope of 6.55 tons (of 2,240 pounds), which is but slightly under that of Plymouth manila cordage rope of same size.

The plants of *Furcroea gigantea* are, after the land is carefully prepared by plowing, harrowing, etc., planted during the autumn in rows, usually about 6 feet apart, although the distance varies according to fertility of soil. The usual cultivation is only to keep the land free from weeds, which is the only expense to be met until the plants reach the first cutting stage at the end of the fourth year.

The question of waiting four or five years for the initial returns is a very serious one with many, and it has been proposed to minimize this expense by planting potatoes, corn, or other staple, that can be grown without interfering with fiber, and its cultivation clears the weeds. When the cutting begins the yield during the life of the plant will be about three-fourths of a ton of dressed fiber per acre per annum. Some reports are higher, but above this would seem to be considered as abnormally large. The yield in dressed fiber is about 2½ per cent, or about 40 tons of leaves will produce a ton of dressed fiber. From the limited experience in this colony, and comparing labor, etc., of Mauritius, the cost of production in Natal will not exceed \$65 or \$75 per ton.

THE INDUSTRY A PROMISING ONE.

During the last thirty years attempts have been made to establish the industry in this colony, when the *Furcroea gigantea* was introduced, probably from Mauritius. Ten years ago the first serious attempt was made near Port Shepstone, and a mill was erected, but the promoter died before any results were obtained, and in inexperienced hands it has not prospered. Within the past two years renewed efforts have been made, so that now it can be considered well settled that the fiber industry has come to remain until it is proved a success, or that the conditions are not favorable to its culture. It is in its infancy, but the profuse growth in many parts of the colony of imported and indigenous fiber plants in a wild state, from which an excellent quality of fiber can be extracted, would warrant the belief that under proper culture it would rapidly grow into an important

industry; but the future of the fiber industry in Natal must be dependent upon the crop eventually yielded by the acreage now planted.

A member of the Natal land board, in his report after returning from Mauritius to investigate fiber culture in that island, says:

There is no doubt in my mind that the aloe fiber industry will prove a useful one to our colony; and while not promising large fortunes, in a few years, without any trouble, will prove more payable than many enterprises in which our farmers are now engaged, besides making use of parts of farms, on the better land of which other crops are being grown, and bringing whole districts into a productive state. [The complete report on the "Fiber Industry at Mauritius" may be seen at the Bureau of Manufactures.]

The conservator of forests, in a recent article on the subject, says:

Taking the fiber industry as a whole, there seems to be every prospect that it will prove a valuable asset to Natal and to those who carry it on. If systematically and economically worked with the right kinds (of fiber) success is assured; but the most important point at the present is to see that the best kinds, and these only, are used.

COTTON GOODS IN AUSTRALIA.

AMERICAN FABRICS SIMPLY NEED PUSHING TO BE MORE LARGELY SOLD.

Consul Henry D. Baker, writing from Hobart, furnishes valuable information showing the excellent opportunity afforded in Tasmania especially, and Australia generally, for the sale of larger quantities of cotton goods manufactured in the United States:

Under the new tariff of the Commonwealth of Australia, as passed by the house of representatives, and likely in its main details to be confirmed by the senate, the duties on most classes of cotton goods have been fixed at 5 per cent. The consumption of cotton goods may thereby be stimulated, especially as the same tariff act materially raises the duties on many other classes of goods for clothing purposes. It would therefore seem well that American manufacturers of cotton textiles should have their interest quickened in this market and try to secure for themselves a reasonable share of the Australian business.

I have just had an interesting conversation with one of the largest merchants of Hobart regarding the opportunities for the extension of American trade in cotton textiles, and will quote in substance what he said, as his remarks show unjustifiable apathy on the part of cotton textile manufacturers of the United States in the Australian market. The person quoted is the proprietor of a large department store in Hobart, has traveled extensively in the United States, and has made quite a specialty in his own store of American-made goods whenever he thinks they possess special merit. He said:

NO SALES AGENTS—AMERICAN CALICOES POPULAR.

The only reason, in my opinion, why American cotton textiles are not sold here more than the textiles produced in other countries is not because they are not more suited for the local trade, but because reputable American houses have never seen fit to send their expert sales agents to properly explain the special advantages of their goods. There are probably at least 100 special representatives of English houses, with expert knowledge of cotton textiles, who are traveling through the Commonwealth at the present time, giving every important town a visit perhaps two or three times a year; but I know of not one American house which has any expert traveling man of its own at work in the Commonwealth. American cotton manufacturers intrust their business almost entirely to general agents at Sydney and Melbourne, who handle almost any goods they think they can sell, from a patent medicine to a bedstead.

Many of them have done so well with certain American goods, like agricultural machinery and boots and shoes, that they think they are able to be agents for almost anything that is American, and so undertake business to which they can not give proper time and attention.

If you inquire of one of these agents about any particular line, say of American calicoes, he may be able to tell you that the reputation of the house which sells them is good, but is quite incompetent to explain in what way, if any, the line of goods you ask him about excels. The people here are pretty conservative about what they buy, and it takes some convincing explanation to induce them to purchase American calicoes when they are accustomed to other kinds. I have discovered for myself that American calicoes are purer and wear longer than calicoes produced elsewhere, and if the fact were only known generally that while American calicoes are lighter, generally speaking, than other kinds, yet they are more durable, American manufacturers would, in my opinion, become in supreme command of this market. In my own establishment the sale of American calicoes is constantly increasing, and it only requires a little more educating for all persons to want them. Those I sell are invoiced from 12 cents to 40 cents per yard; the best demand is for those invoiced at from 15 to 20 cents per yard.

American cotton bed sheetings are also meeting with a steadily increasing sale here, which is also favored by the low rate of duty, which is only 5 per cent. American denims, which sell here from 7d. to 1s. (14 to 24 cents) per yard, have long outdistanced in their sale the denims of other countries, and it now seems to be generally admitted that it is impossible to compete with the United States in this trade. They also pay only 5 per cent ad valorem. The Tasmanian workingman seldom buys any other kind. American denims are being more and more used in Tasmania as clothing for boys, as they not only look well, but stand a great deal of hard usage, moreover are cheap. Only the cloth, however, should be imported, as the duty on made-up goods, which is 35 per cent, is practically prohibitive. One large use of American cotton sheetings in Tasmania is as a substitute for wall paper or plasterings in many houses back in the country.

American cotton underwear has so far very little sale here; what possibilities there are in this direction it is hard to say, as no particular effort, to my knowledge, has ever been made to exploit them. In sending samples American manufacturers should bear in mind that the cheapest grades would sell best, also that Tasmania has its winter when the United States has its summer, and that samples, say for the winter trade, should be sent at least six months ahead, the winter demand beginning in April.

It should also be stated that under the new act cotton yarns, for use in the manufacture of cordage and of textile goods, are admitted free.

EUROPEAN FLAX SOWINGS.

REDUCED ACREAGE IN HOLLAND, BELGIUM, AND RUSSIA.

According to Consul W. P. Atwell, of Ghent, it is ascertained that the present outlook for the new flax crop is so unsatisfactory that practically in all flax-producing countries a considerable decrease in the acreage as compared with 1907 is anticipated. The consul's review follows:

The sowing in Holland will be considerably less than for the preceding year, while in Belgium a similar situation is also predicted. As regards Russia, a decrease is certain, but the approximate importance thereof can not yet be definitely determined. It should, however, be remarked that in some districts no change whatever seems apparent, while in others the decrease is looked upon as probably to be of a very important nature, to the effect that it is said that it will attain as

high as 50 per cent, which would seem somewhat exaggerated. Taking the country as a whole, it may be said that the approximate decrease will be from 15 to 20 per cent.

Generally speaking, therefore, there is a poor prospect of low prices this year, while there is a decided possibility of the contrary. It may be said that at the present time Russian flax is cheaper than it has been for the past nine years.

COTTON GROWING IN KOREA.

ADAPTABILITY OF THE COUNTRY TO THE CULTIVATION OF THE PLANT.

Consul-General Henry B. Miller, of Yokohama, transmits an article from a local financial and economic journal on the cultivation of cotton in Korea, from which the following extracts are taken:

It is a well-known fact that the future of cotton planting in Korea is full of promise, and since the establishment of the Cotton Plantation Association various measures have been adopted to introduce improved methods of planting and the result has proven very satisfactory. The cultivators of cotton have each been given a farming implement regardless of the size of their holdings. Prizes have been given by the Government to those who are diligently engaging in the work. Thus everything possible is being done for the encouragement of the cultivation of the plant.

During 1907 the work has been quite satisfactory with the exception of a few plantations, and there is no room left to doubt the adaptability of the Korean climate and soil for the production of cotton. Now the question is, how far the cultivation can be extended in Korea. If things progress at the present rate, within five years there will be an area of plantation extending over 122,500 acres, and the output of ginned cotton will be 28,666,666 pounds, valued at \$3,225,000. Compared with the sum realized by the old Korean method, which is 12,560,000 pounds, valued at \$1,910,000, an excess of 16,106,666 pounds, valued at \$1,810,000, will be obtainable. Thus if all of the plantations in Korea will use the new seeds the output of ginned cotton will be 67,200,000 pounds, valued at \$7,560,000.

FORESTRY.

METHODS AND PRODUCTS.

BRAZIL.

RUBBER TRADE AFFECTED BY REDUCED ACTIVITY IN UNITED STATES.

Consul-General George E. Anderson, of Rio de Janeiro, discusses last year's rubber trade in Brazil, and the present market conditions, as follows:

The immense fall in the price of raw rubber in the markets of the world which was given an acute turn by financial conditions in the United States in the last few months of 1907 has seriously affected financial conditions in the northern States of Brazil. The major portion of the income of the State governments in the north of Brazil rests upon export duties levied upon raw rubber. The fall in the price, the reduction in shipments, and the disturbance of the trade have led to financial stress not alone measured by the traders in rubber who, in view of the extraordinary low prices, are building up large stocks of the gum, but upon every line of business. The general situation is reflected at large by the fact that the shipments of rubber in 1907 brought into Brazil a total of about \$63,200,000. At the prices for the gum obtaining in 1906 this sum would have been about \$78,000,000, and at the prices obtaining at the present time and apparently likely to continue most of the present year, the income from rubber on the basis of last year's shipments will amount to only \$47,500,000, or \$15,000,000 less than last year's income, and about \$30,000,000 less than that of the year before which the governmental world had come to regard as normal. As a matter of fact at the present rate of shipments there is no certainty that the lowest figure named will be reached.

DECLINE IN PRICES.

The course of the rubber market of the world in the past two years has not been such as to promise much relief in the Brazilian market. In 1902, 1903, and 1904, save for a few spurts in the market, the price of fine Para rubber ranged about 87 cents to \$1 per pound. In general, prices commenced then to rise until in May, 1905, they reached \$1.44 per pound. In 1905 and 1906 in general they held their own. From January to June of last year (1907) they fell almost uninterruptedly and after a slight reaction at the middle of the year they fell to \$1.12½ in September. The monetary stringency in the United States, which came on soon after that, affected American factories for a time, and the demand for rubber in the United States fell off in such a way that prices of rubber in the world's markets fell as low as

83 cents in November, since which time rubber dealers have been accumulating stocks for improved prices.

That better prices will soon come, however, with constantly increasing stocks and little increase in demand, seems impossible. The situation is further complicated by the general feeling that prices in 1905 and thereabouts were too high to last. There has been an immense increase in the acreage of cultivated rubber, and the rubber consumers of the world have come to have less worry as to whence their rubber supplies are to come. It is to be expected that the demand formerly obtaining will in time be reached again, but when it is reached the indications are that the supply will be immensely greater, even in proportion to such demand.

DEPENDENCE ON AMERICAN CONSUMPTION.

How dependent Brazilian rubber interests are upon the United States as a market has been quite effectively illustrated in the effect of changed conditions in the United States upon those interests. The course of American imports of Brazilian rubber shows that in spite of immensely increased purchases from other portions of the world the United States still takes substantially one-half of the entire rubber exports of Brazil. In 1907 the United States took, out of the total exports of 33,383 metric tons of syringa rubber from Brazil, 16,116 tons as compared with 12,264 for Great Britain, 2,285 for France, 1,956 for Germany, and 402 for all other countries. Of \$61,135,462 worth of syringa the United States took \$29,265,036. The total exports of all kinds of rubber from Brazil in 1907, in metric tons of 2,204.6 pounds, were as follows:

Country.	Metric tons.	Value.	Country.	Metric tons.	Value.
United States.....	16,811	\$30,202,955	All others.....	488	\$846,000
Great Britain.....	14,854	24,964,783			
France.....	2,506	5,040,000	Total exports.....	36,490	65,251,287
Germany.....	2,331	4,197,360			

In 1905 the United States took 16,700 tons out of a total of 35,200 tons; in 1906 it took a total of about 16,700 tons out of a total of about 34,800 tons. It is evident that anything in the United States seriously interfering with the consumption of rubber will have an important influence upon the rubber situation. The output of rubber from the several ports of Brazil last year was as follows:

Port.	Metric tons.	Port.	Metric tons.	Port.	Metric tons.	Port.	Metric tons.
Manaos.....	16,768	Pernambuco....	90	Maranhao.....	21	Rio.....	78
Para.....	16,018	Bahia.....	1,550	Fortaleza.....	504	Corumba.....	468
Ilha.....	635	Santos.....	101	Oabadello.....	25		
Natal.....	19	Itacoatiara....	117	Macelo.....	8	Total.....	36,490

CORROBORATIVE EVIDENCE.

AMERICAN STATISTICS SHOW DECREASED IMPORTS OF RUBBER.

Corroborating the consul-general's statement that the United States has been purchasing less raw india rubber it may be stated that the imports for nine months periods ending March 31, 1906-1907-1908, according to figures published in the Monthly Summary of Commerce and Finance, have been as follows:

	1906.		1907.		1908.	
Imported from—	Pounds.	Value.	Pounds.		Pounds.	Value.
United Kingdom.....	5,625,584	\$5,158,282	8,017,749	1	3 00	\$2,450,400
Germany.....	2,830,580	2,102,333	3,228,721	1	10	1,419,048
Other Europe.....	6,044,560	5,283,350	7,314,064	4	73	2,143,142
Central America.....	977,906	584,383	900,683		60	434,588
Mexico.....	816,818	306,346	4,222,318		6	2,903,916
Brazil.....	23,226,028	18,745,522	31,165,216	1	23	14,175,650
Other South America....	1,453,184	960,611	1,531,541	1	80	806,525
East Indies.....	1,843,000	559,378	1,726,230		95	550,126
Other countries.....	24,552	21,145	20,456		46	22,716
Total.....	43,442,379	33,815,850	56,185,966	45,440,806	42,173,733	25,954,248
India rubber, old scrap, fit only for remanufacture....	20,441,800	1,412,200	21,686,154	1,863,103	14,410,221	1,256,422

FRANCE.

GOVERNMENT ENCOURAGING REPLANTING OF TREES IN CLEARED LANDS.

In reply to an inquiry from a Western forest commission, seeking information in regard to any system of forestry in France whereby the "State has succeeded in inducing individuals to act" and the financial results of applying proper forestry methods to poor lands, Consul-General Robert P. Skinner, of Marseille, reports as follows:

The French Government is encouraging individuals to replant trees on cleared lands by exempting such lands upon summits and mountain sides, dunes, and moors from all taxation during thirty years and exempting all other lands which they may replant to the extent of three-fourths of the ordinary tax rate during a like period. Furthermore, the State pays subventions to private persons based upon the importance of the work proposed or accomplished, such subventions being in the form of seed, plants, money, or labor.

The State does not content itself with scientific control of the national forest domain and the encouragement of private persons as described; it also assumes a large measure of authority over existing forests, privately owned. The following summary of the legislation defining this control has been kindly supplied by the Director-General of Waters and Forests:

Art. 219. No private property owner may exercise the right to uproot trees or clear wooded lands, except after having declared such intention at the Under-Prefecture at least four months in advance, during which time the administration may signify to such proprietor its opposition to the proposed work. Before the signification of such opposition, and eight days at least after a notification given to the interested party, the inspector, under-inspector, or one of the general guards of the region will examine the state and the situation of the wood, and will prepare a detailed report, which will be notified to the party at interest, with an invitation to present his observations. The Prefect will give his opinion upon the opposition. This opinion will be notified to the forest agent of the department, and likewise to the owner of the wood, and transmitted to the Minister of Finance, who will pronounce administratively. If within the six months which follow the signification of the opposition the decision of the Minister is not given and signified to the owner of the land the clearing may be undertaken.

Art. 220. Opposition to the clearing of private forest lands can be established only for woods the preservation of which is recognized as necessary: For the maintenance of the soil upon mountains and slopes; for the defense of the soil against erosions and the invasion of rivers and streams; for the existence of springs and watercourses; for the protection of dunes and slopes against the erosions of the sea and the invasion of sand; for the defense of the national

territory in the frontier zone, which will be determined by a regulation of public administration; for the public health.

Art. 221. In case of the contravention of article 219, the offending landowner will be condemned to pay a fine calculated at the rate of 500 francs (\$96.50) at least and 1,500 francs (\$289.50) at the most, per hectare (2.47 acres) of land cleared. He must, moreover, if he is ordered so to do by the Minister of Finance, reestablish the clearings by plantations of trees within a delay of three years.

Art. 222. Upon the failure of the proprietor to replant or seed cleared land, within the delay prescribed by ministerial decision, this will be done at his expense by the forest administration.

ROADSIDE TREES.

PRESERVATIVE EFFECT OF SHADE TREES ON FRENCH ROADS.

In answer to inquiries from the United States, Consul-General Skinner also furnishes the following information relative to the effect of wayside trees on French roads:

It is proposed to plant trees along the roadsides of New York State in order to keep the moisture in the road and prevent raveling, and the question has been raised whether or not the roots of such trees may spread out underneath the road surface, and eventually create great damage in a severe climate where there are extremes of heat and cold. While French roads are not always bordered with shade trees, they are so very frequently, and my information is that the trees are planted not only for furnishing shade, but in order to protect the roads themselves against the effects of excessive heat and drought. It is believed that the long dry summer season is much more inimical to roads than severe cold. The chief officer in charge of the public roads in Marseille is of the opinion that, on the whole, New York roads would be benefited if bordered with trees, suggesting, however, that only such should be planted as have vertically descending roots.

WHERE, WHEN, AND HOW TO PLANT THE TREES.

F. Birot, civil engineer, and former conductor of the bureau of bridges and highways, expresses himself as follows on the subject:

In countries where the climate is damp roadside trees are prejudicial to the maintenance of the highways, as they prevent the circulation of the air and the drying of the soil; in most of the southern French regions such plantations are, on the other hand, very useful in dry weather, as they maintain the road-bed in a state of freshness favorable to its conservation. In general, trees should be selected with high spreading branches, such as the poplar, the elm, the ash, and they should be planted generally upon the outer edge of the road-box and at distances of 10 meters (32.80) feet). Each tree should be placed in a hole 1 meter (3.28 feet) deep and $1\frac{1}{2}$ meters (4.92 feet) square, and should be trimmed to a height of $2\frac{1}{2}$ meters (8.20 feet) above the surface.

The earth about newly planted trees should be loosened in March and November—in March only after the third year—and thereafter until their permanent growth appears assured; small trenches should be directed toward the foot of the tree, in order to secure the benefit of rains. Finally, the tree itself should be trimmed annually during the first ten years.

CUBA.

ISLAND'S CHARCOAL SUPPLY PRODUCED FROM NATIVE HARD WOOD.

Replying to a New Orleans inquiry for information as to the use of charcoal in Cuba, Consul-General James L. Rodgers writes from Habana, as follows:

Nearly all of the charcoal consumed in the island is manufactured locally, the industry being a large one and furnishing employment to a great many of the people who live adjacent to the tracts of hardwood timber used for the purpose. The statistics as to the consumption of charcoal are entirely lacking, but it can be stated in a general way that the majority of the Cuban people and all others resident on the island use charcoal for cooking purposes. The price varies with the locality, but it is probable that a fair average would be between 75 cents and \$1 per 100 pounds in the market and delivered.

The duty on charcoal from the United States is \$1.50 per gross ton. [The largest dealers in the commodity in Habana are named by the consul-general, and their addresses may be obtained from the Bureau of Manufactures.]

ASIATIC TURKEY.

THE GATHERING OF THE VALONIA CROP AN IMPORTANT INDUSTRY.

Consul Ernest L. Harris states that the tanning material, valonia, is one of the most important forest products of the vilayet of Smyrna. He gives the following facts concerning it:

It is taken from what is known as the valonia-yielding oak (*Quercus ægilops*) which is cultivated in Uschak, Adala, Nazili, Sokia, and on the island of Mitylene. The crop is gathered during the months of July and August, and the annual output amounts to about 140,000,000 pounds, only 13,000,000 pounds of which is produced in this vilayet, the rest being drawn from other vilayets.

The industry gives employment to about 10,000 workmen. The valonia is detached from the nut at the place of growth, chiefly by peasant women who earn from 12 to 16 cents per day. The nut, or acorn shell, is used as fuel, and the extracted valonia is shipped to Smyrna in native-made sacks of 338 pounds each.

In the Smyrna storehouse valonia is again sorted into four different qualities, where women and girls are again the principal workers. The most skillful and experienced get as high as 32 cents a day.

Prices depend upon the quality, that is, the different degrees of tanning properties contained in the valonia samples submitted. Many English leather manufacturers simply purchase the sifted powder. The principal countries which buy valonia in the Smyrna market are England, France, Germany, Austria, Italy, Russia, and Roumania. The average present prices for the four qualities of valonia f. o. b. Smyrna per 220 pounds are as follows: First, \$4.75 to \$5.50; second, \$4.37 to \$4.75; third, \$3.80 to \$4.20; and fourth, \$2.85 to \$3.20.

There is a depression in the market just now which dealers attribute to a chemical substitute recently discovered in Germany. During 1907 valonia was shipped from Smyrna to the United States to the value of \$1,166. Hitherto the raw product was shipped to England and there manufactured into tanning fluid, the greater part of which found its way to America. A local firm is now erecting a factory for manufacturing the tanning fluid here.

Considerable injury was done to the valonia trade of Smyrna by mixing with the cups a large quantity of the crushed acorn, which is of no value for tanning purposes. A recent decision of the council of state decrees certain stringent measures to be taken in order to prevent continuance of the adulteration.

HOUSE TRIMMINGS IN COLOMBIA.**HOW AMERICAN MANUFACTURERS MAY BUILD UP TRADE.**

In reply to an inquiry from a manufacturing company in the State of Washington, Consul Isaac A. Manning, of Cartagena, furnishes the following information concerning the house-trimming industry of Colombia:

At present the trade in house trimmings—that is to say, ready-made doors, sash, blinds, etc.—is absolutely nil, but if an effort were made a good trade could be worked up in these lines of goods. The carpenters of this country are the manufacturers of all the doors, windows, and other classes of house trimmings used here; but it would seem that there is a disposition in the country to throw off the custom of using heavy, unwieldy, and inartistic doors and replace them with the more portable and attractive panel doors of present-day use.

This change would also add to the field for sale of American door and window fastenings, those in use here at present being in the main heavy, inflexible, and inartistic. The architects would have to begin to build to better lines if they were to import ready-made fittings, for they could not make the door fit any sort of an opening, but would have to make the wall openings to fit their doors and window frames, which would certainly be in the interest of the attractive.

HOW TO BUILD UP THE TRADE.

Nothing, however, will be done with these goods until some concern sends its traveler here to place the handiness and cheapness of ready-made house fittings before the builders of the country and at the same time help the retail dealer by giving him an opportunity to dispose of a trial lot of goods. Samples must be sent so that the people can see the difference in beauty, style, and finish between the American-made panel door and the rough, heavy, inartistic door in use here.

There should be sale here for some ready-made Persian blinds for windows with mosquito-proof shutters and for grill work, but manufacturers will have to come after the business if they want it. It is not a ready-made market to be secured through catalogue work. It is a new field, and the prospective customer knows nothing about this line of goods.

Goods of this character should be packed as lightly as possible, for there are rather high duties thereon. Planed lumber pays a duty of 1.7 cents, gold, per kilo (2.2 pounds) of lumber and packing; doors and windows pay a specific duty of 5.1 cents per kilo, packing included; moldings adorned, for furniture or picture frames, pay 25½ cents per kilo.

METALS AND MINERALS.

THE WORLD'S MINES.

FRANCE.

OUTPUT AND UTILIZATION OF BAUXITE—EXPORTS TO UNITED STATES.

Consul-General Robert P. Skinner, of Marseille, reports that on account of the increasing exports of bauxite the French customs gave it a denominated place in the statistical tables of 1907, previous to which it was entered with "undenominated minerals." He adds:

According to official figures, the quantity of bauxite exported from France in 1907 was 110,915 tons, valued at \$471,113. The declared value of French bauxite exported to the United States from the Marseille district during the years 1905, 1906, and 1907 amounted to \$50,162, \$55,787, and \$108,207, respectively.

The French deposits, which were the first to be discovered, continue to be the most important in the world, both in extent and value. The first valuable beds were found in the neighborhood of Les Baux, a few miles to the west of Marseille, which accounts for its name. At present the chief sources of supply are in the department of the Var, a few miles east of this city, from which export shipments are made. From a mineralogical point of view, bauxite is a non-silicated stony earth of the oxide family. It may be compared somewhat with corundum, and with emery, which is merely a variety of corundum. Indeed, one of the chief uses to which it is put in the United States is for the manufacture of an artificial corundum. It is also utilized in the United States for the manufacture of aluminum, alum, and various refractory products. This last application is of comparatively recent origin, and is by no means so extensively generalized as in France, although it is beyond doubt that as a refracting material for lining furnaces, in which the corrosive action of the basic slag must be resisted, the utility of bauxite is very great.

SUPPLY OF BAUXITE AND ITS USES.

The consulting engineer of this city reports that in 1907 the world's production of aluminum was 25,000 tons, requiring for the manufacture thereof 120,000 tons of red bauxite; the manufacture of aluminous and refractory products consumed 180,000 tons of other bauxite; the total production of this mineral, therefore, was 300,000 tons in 1907. Since a year ago the exploitation of French bauxites has developed considerably, this being due to the fact of the creation of a number of new factories, in which use is made of processes, the patents for which have expired. Rich deposits of the mineral have been found in different localities, until now unexplored, and the newly organized companies have eagerly taken up concessions, some

of which may or may never be actually exploited. In the opinion of the Marseille consulting engineer the French bauxite deposits are inexhaustible. Almost every day new pockets are brought to light, which are not utilized. After the exhaustion of deposits of bauxites yielding from 60 to 65 per cent of aluminum, the aluminum industry will have in reserve deposits yielding bauxites containing 45 to 47 per cent of aluminum, these latter deposits being practically inexhaustible.

The refractory products manufactured from white bauxites containing from 40 to 45 per cent of aluminum are much sought in this country for use in industries where exceedingly high temperatures are maintained. Cupolas, locomotive fire-box linings, and glass furnaces are manufactured of bauxite bricks, which give special satisfaction. These products are sold at high prices. Practically the total production of white bauxite from the department of Var is shipped to manufacturers of refractory products in Belgium.

The most expensive quality of bauxite is the white ore, which yields 60 per cent of aluminum, 4 per cent at most of iron, and which is without silica. This ore is utilized in the manufacture of chemicals, and is worth from \$3.57 to \$3.86 per ton. Next in value comes the red bauxite, containing 60 per cent of aluminum and 3 per cent of silica, which is converted into aluminum, and is worth \$2.31 to \$2.89 per ton. Third in order comes a special white bauxite for the manufacture of refractory products, containing 45 per cent of aluminum, traces of iron, and much silica. These are the broad descriptions of the three standard grades shipped by French producers. [A list of the principal producers of bauxite in France, and the name of a dealer in Marseille, who is in touch with the numerous producers, are on file in the Bureau of Manufactures.]

GERMANY.

GOVERNMENT TO CLOSE SILVER MINES IN SAXONY FIVE YEARS HENCE.

Consul Thomas H. Norton, writing from Chemnitz, states that one of the oldest and best-known silver mines in Europe, that of Freiberg in Saxony, is soon to be permanently closed, after a long continued and practically uninterrupted period of exploitation, dating back to 1163. The consul continues:

During these past centuries the rich veins have formed one of the most valuable sources of income of the royal house of Saxony. Since the serious depreciation in the value of silver it has become more and more manifest that it was economically impossible to compete with the richer ores of America. For several years past instead of yielding revenue the mines have been operated at a serious loss to the State. For the current year the deficit is \$220,000. Working operations have gradually been restricted and the output steadily lessened. The value of the silver mined in 1905 was only \$285,000. The mines would have been closed before this had the Saxon government not shrunk from exposing the large mining population of Freiberg to the misery sure to follow a complete cessation of work. On April 28 the Saxon minister of finance announced, however, that the mines would be definitely closed in 1913. Many of the older miners in the employ of the State will be pensioned, and every effort

will be made to lessen the economic effects following necessarily upon the final execution of this decision.

Interesting in this connection, and indicative of the genuinely paternal instinct at the basis of many governmental features in Germany, is this careful provision to prevent suffering to the families and the community as a result of the relentless working of natural economic laws.

The many Americans who have gained their metallurgical training in the "Bergakademie," or School of Mines, at Freiberg, will welcome the decision of the Saxon government to still maintain this valuable institution.

BRITISH GUIANA.

DECLINE IN GOLD PRODUCTION FROM SOUTH AMERICAN COLONY.

Consul Selah Merrill, writing from Georgetown, furnishes the following information concerning gold mining in British Guiana:

Many people appear to be misinformed as to the gold production of British Guiana. Here, as in other gold-producing countries, companies have been formed, great expectations raised, and after a little the companies have disappeared. The hills far in the interior of the colony have considerable gold-bearing rock, but the extent of these deposits no one knows. When gold was first discovered there was much excitement and much money lost. Now the talk is more sober and the majority of people are advancing at a slower pace. It is thought that a word of caution may not be out of place to those who with limited means think of gold mining as a manner of investment. Gold production in this country had a small beginning; after a time it increased till a culminating point was reached; since then it has been in a state of decline, as the following statistics of production for this colony show:

Year.	Ounces.	Year.	Ounces.	Year.	Ounces.	Year.	Ounces.
1884	250	1890	62,615	1897-98	124,327	1902-3	102,363
1885	939	1891	101,298	1898-99	112,464	1903-4	90,207
1886	6,513	1892-93	133,146	1899-1900	112,824	1904-5	94,617
1887	11,906	1893-94	137,692	1900-1901	108,522	1905-6	95,044
1888	14,570	1894-95	134,047	1901-2	101,709	1906-7	86,125
1889	28,282	1895-96	126,107				

MEXICO.

NO BISMUTH ORES TO BE FOUND IN THE REPUBLIC.

In answer to many inquiries from the United States in relation to recent discoveries of rich bismuth ores in the State of Guanajuato, Consul-General A. L. M. Gottschalk, of Mexico City, furnishes the following information:

I have the honor to report that this office has received numerous communications from persons in the United States inquiring as to the recent discovery of rich bismuth ores in the State of Guanajuato. It appears to me that this report must have emanated from some unreliable source.

After investigation, Consular Agent Norman Rowe, at Guanajuato, says that none of the practical mining men nor a technical geologist,

whom he has consulted in Guanajuato, have ever known or heard of any bismuth mines in the State. The consular agent, therefore, considers the report to be absolutely without foundation. He says that there has been a recent discovery of mercury in the vicinity of Guanajuato, but that, although the property has been claimed, no development work has been attempted on it thus far.

CANADA.

NEW PLANT IN BRITISH COLUMBIA FOR REDUCING ZINC ORES.

Consul L. Edwin Dudley, of Vancouver, has just received information that the plant near Nelson, British Columbia, for the reduction of zinc ores by electric process will be ready for operation shortly, concerning which he says:

If this process is successful, it will be important to the mining districts near Nelson. Heretofore the silver-lead ores have been "penalized" for the amount of zinc which they contained. All mining men here are awaiting with great interest the trial of the new method. The experiments heretofore made seem to point to a great success of this new method of treating by the electric process ores carrying considerable quantities of zinc.

COLOMBIA.

LAST YEAR'S EXPORTS OF MINERALS THROUGH CARTAGENA.

Consul Isaac A. Manning reports that the exports of gold, silver, platinum, and specie through the port of Cartagena to various countries during the calendar year 1907 were as follows:

Country.	Gold.	Platinum.	Gold and platinum (mixed).	Specie.	Silver.
United States.....	\$1,117,338	\$57,716	\$44,982	\$26,991	\$42,004
France.....	31,267	28,743	241		80
Great Britain.....	861,418	12,138			
Germany.....	1,936				
Total.....	2,011,959	98,597	45,223	26,991	42,084

FEDERATED MALAY STATES.

EXPORTS OF TIN SHOW AN INCREASE OVER LAST YEAR.

The following table, compiled by Vice-Consul-General George E. Chamberlin, of Singapore, from the report of the senior warden of mines, shows the exports of tin from the four Federated Malay States during the first two months of the year 1908, compared with the same period of 1907, the increase being 1,400 tons:

States.	1908.	1907.
	Tons.	Tons.
Perak.....	4,863	4,184
Selangor.....	3,849	2,061
Negri Sembilan.....	708	731
Pahang.....	365	290
Total exports.....	9,275	7,875

COAL AND PRODUCTS.

FRANCE.

OPENING FOR AMERICAN FUEL IN THE MEDITERRANEAN MARKETS.

In answer to an inquiry from the editor of an American trade journal, Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to the coal trade of France and the leading Mediterranean ports:

Whether or not American coal can be expected at present to find a Mediterranean market under profitable conditions is for the American interest to say. The market is here, as has heretofore been frequently reported, and standard American navigation coals probably can be sold to the chief navigation companies through local importers at an average price of 1 franc (19.3 cents) per ton less than prevailing prices for standard British coals. In years past, when well-known American coals were received here, the importers arranged with their contract buyers of English grades to supply American fuel under certain circumstances usually at a price of 1 franc (19.3 cents) less than contract terms, this difference about representing the foreign appreciation of relative values. It is probably out of the question to undertake to find a market for American coal in northern European ports. The Mediterranean markets, however, have absorbed considerable quantities of American coal in the past, and ought to take up much larger quantities in the future.

The great coaling ports to which the attention of exporters should turn are: Gibraltar, Marseille, Algiers, Genoa, Savona, Naples, Alexandria, and Port Said. Genoa is a particularly heavy importer of coal on account of the total absence of domestic fuel. The following statement shows the imports of coal at Genoa, Marseille, and Savona, in 1907, details for Savona not available:

Port.	British.	American.	All other.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Genoa.....	2,959,843	25,702	17,758	3,002,863
Marseille.....	1,087,000	^a 3,500	60,000	1,150,500
Savona.....				1,013,890
Total.....	4,046,843	29,202	77,758	5,167,253

^a Gas coal.

PRICES OF BRITISH COAL—THE FRENCH INDUSTRY.

The present price of Cardiff steam navigation coal at Marseille is 26 shillings (\$6.32) f. o. b. Similar Newcastle coal is quoted at 24 shillings (\$5.83) nominally. The present Marseille price for coals for industrial purposes taken on the docks, duty paid, is \$4.44, this price applying to both English and German small coals.

The average freight rate on English coal, shipped either from Cardiff or Newcastle to Marseille, is \$1.54, and the present wholesale price of ordinary Cardiff coals f. o. b. at Cardiff is \$3.25 and of Newcastle coal at Newcastle \$2.67. These prices would bring the cost prices, plus transportation to Marseille, up to \$4.79 and \$4.21 for Cardiff and Newcastle coals, respectively. Under date of February 28, important Cardiff exporters reported to their Marseille buyers that

prices had been reduced, and that work in the mines was irregular, with the feeling growing "that the bottom of the market has been reached." Detailed prices were quoted as follows:

Description.	Price.	Description.	Price.
Best admiralties.....	\$3.95 to \$4.13	Second Monmouthshire.....	\$3.22 to \$3.34
Ordinary admiralties.....	3.65 to 3.77	Bituminous.....	2.85 to 2.98
Ordinary Cardiff.....	3.52 to 3.65	Smalls, best.....	2.37 to 2.43
Best Monmouthshire.....	3.40 to 3.52	Smalls, ordinary.....	2.19 to 2.31

With the foregoing figures and statistics before them, American coal shippers can determine for themselves whether they are in a position to compete in this market.

As to the French coal industry, the latest available figures cover the year 1906. In that year the coal consumption of France was 51,700,000 tons, and the domestic production 34,196,000 tons. In the domestic industry 326 concessions were exploited, and 178,400 laborers employed. Of the 326 exploitations, 147 showed profits and 179 losses. The net receipts of the profitable exploitations amounted to \$9,810,190, and the losses of the unprofitable mines amounted to \$3,194,150. The average value per ton at the mine of French coal was 13.70 francs (\$2.64), the labor and cost of extraction 6.81 francs (\$1.31), and the average profit per ton 1 franc (19.3 cents). The annual average production per laborer employed was 191 tons. The average daily wages paid were 4.75 francs (92 cents) and the average annual wage of each laborer 1,306 francs (\$252.05). The annual profit per laborer employed, considering French mines as a whole, was 192 francs (\$37.05). [Importers of coal at Marseille, Havre, La Rochelle, Barcelona, and Alexandria are listed at the Bureau of Manufactures.]

UNITED KINGDOM.

NEW WELSH PROCESS OF MANUFACTURING BRIQUETTES WITH TAR.

So many inquiries as to the newly patented Shedlock process of manufacturing briquettes with tar have reached Consul Lorin A. Lathrop, at Cardiff, from different parts of the United States that he has thought well to send forward all information that is to be obtained at the moment. The consul writes:

The process has been patented in all the coal-producing countries of the world. The United States patents were taken out in 1904 and 1907, respectively, and are numbered 774705 and 857417. The patentee has prepared, at my request, a statement as follows:

Shedlock's patented process and apparatus for the manufacture of briquettes ("Castle" brand) consists in a combination of tar distillation and the consolidation of small particles of coal (waste) of all kinds, into dense blocks of fuel, smokeless in character and possessing high calorific value. The process consists in first effecting a perfect mixture of the small particles of coal with any suitable tar, whereby each particle is covered by a thin film of tar. The quantity of tar used is entirely dependent on the nature of the coal, in any case not exceeding 6 per cent of the whole. The prepared materials are then automatically and continuously fed into and passed in thin layers through a heated apparatus, whereby the fuel materials are raised to such a temperature as to volatilize and separate the oils from the tar, which are automatically withdrawn from the apparatus and condensed, thereby providing a by-product of equal or even greater value than the tar used.

The thin film of pitch deposited on each particle of coal forms the agglutinant, which, when the materials are subjected to the necessary pressure, causes their consolidation into blocks more homogeneous and harder than the coal from which the small or waste coal was originally obtained. The fuel materials are automatically passed from the heating apparatus in which they were treated for the removal of their volatiles directly into an agitator, thence into the compressing apparatus, from which the fuel blocks issue in such a condition that they may at once be loaded into trucks or otherwise disposed of.

TRIAL AND TESTS.

The rationale of the process is embodied in the fact that the smaller quantity and nature of the pitch used than that in the present system of making fuel briquettes conduces not only to the production of smokeless fuel, but the pitch so formed in the materials is of such a dry and hard character that it has no tendency to expand and disintegrate the fuel when subjected to the intense heat of a furnace fire, but, on the contrary, in combustion opens into hard coke-like masses with clefts, thereby presenting large surface for oxidation and production of intense heat. The "Castle" fuel has been subjected to exhaustive trials in the firing of locomotive and other furnaces where a solid fire and intense heat is a desideratum, and it has proved itself an ideal fuel, smokeless and of high calorific power. It has also proved itself eminently adapted for shipment to and storage in tropical climates, having passed successfully through all the tests to which fuel under such conditions is subjected.

The "Castle" fuel possesses the further and important advantage that its cost of manufacture is 15 to 20 per cent less than other systems of making artificial fuel. Briquettes of all sizes (from a few ounces to 16 or 20 pounds) can be produced by the apparatus, the smaller sizes being eminently adapted for domestic and general manufacturing purposes, the larger sizes for shipment abroad and storage as a standby in the event of strikes or dislocation of supplies, for marine and railway purposes, as no loss or deterioration of this fuel takes place, however long it may be exposed to atmospheric changes.

The cost of a complete plant to manufacture 500 tons of "Castle" fuel (briquettes about 16 pounds each) is about £10,000 (\$48,665)—a smaller output per day in accordance with the weight of the briquette.

MACHINERY FOR MAKING BRIQUETTES.

I may supplement the above with information as follows: No special machinery is absolutely necessary for the manufacture of these tar briquettes. It has been found in practice, however, that a more perfect briquette is formed with a heavier impression than can be obtained from a rotary press of the Belgian type or other existing machines. Doctor Shedlock now employs a rammer working on a die with a combination of hydraulic and mechanical power. I understand that he has patented, or is about to patent, this rammer. His interests in the patent have been sold. The rights for South Wales and Monmouthshire have been disposed of by the purchasing syndicate to a local smokeless-fuel company. Up to date no other rights have been disposed of. For the moment, therefore, it is impossible for Americans who might wish to manufacture under this patent to effect the necessary arrangements.

JAPAN.

MANUFACTURE OF FUEL BRIQUETTES—FACTORY SELLING PRICE.

Consul George H. Scidmore reports that during the year 1907 a briquette company at Nagasaki manufactured over 35,000 tons of briquettes, nearly all of which were delivered to the Japanese navy. The company's output during the current year is expected to reach 50,000 tons. This fuel is now sold at the factory at 17 to 18 yen (\$8.47 to \$8.96) per ton of 2,240 pounds.

FARM IMPLEMENTS.**UNITED KINGDOM.****ADOPTION OF MODERN APPLIANCES—AMERICAN MAKES IN FAVOR.**

Consul Jesse H. Johnson, in reporting from Swansea that the agriculturist in Wales and in the adjoining English countries, as far as farming implements are concerned, may be said to be keeping pace with the times, says further:

The advancement in large part is due to necessity. It is now a difficult matter here to obtain farm hands, caused by the constant expansion of towns and town industries where good wages are obtained and also to the constant drain on farm laborers through emigration to western countries, particularly Canada. It is therefore obvious that the British farmer must equip himself with up-to-date machinery in order to do his work with as few laborers as possible.

It is not surprising to find that agricultural labor is difficult to obtain here and that town industries have such a fascination on the laborers when it is known what wages are paid by farmers. A list of the weekly wages, including their keep, paid by a large farmer in this country to his hands follows: Wagoner \$3.65, cow man \$3.40, shepherd \$3.04, general laborer \$3.04, boy 97 cents.

AMERICAN PLOWS CRITICISED.

On practically every farm of 50 acres and upward there are the newest self-mowers, self-reapers and binders and other recent inventions, and it is quite pleasing to find the names of American makers on many of these implements. The American machines of these classes are particularly held in high favor, but American plows are seldom seen. To get the latter implement to the fore the American manufacturer and exporter must give the matter a special study. There are in this part of the country annual "plowing matches," which are very popular with agriculturists; the work is judged by a straight furrow, good "rean," and a nice "cop." The English manufacturers pay keen attention to these matches and invariably send representatives. They give encouragement (sometimes financial) to the successful plowman to use plows manufactured by their firms.

During a conversation I had with a champion plowman who had used most "makes," he informed me that an American plow he had used was quite equal, for practical purposes, to any English made, but that the former was not suitable for "matches." He gave as his reason that the American made a good furrow, but turned the sod completely over and therefore did not leave a good "rean" and "cop." It is clear from this that it would greatly benefit our makers to send over reliable and practical representatives to attend English plowing matches and demonstrate the American article to its best advantage. The present is a very opportune time, since most farmers here still use the single furrow and comparatively few have adopted the double furrow.

It can not be gainsaid that the Britisher is very conservative, and practical demonstration is the only effectual method of convincing him and thus increasing the sale of American plows.

SHEARING MACHINES AND WINDMILLS.

A great deal of sheep-shearing is still done here by hand shears and it has taken a considerable time for the shearing machines to be recognized. In most agricultural districts here sheep-shearing competitions still exist and these meetings disclose how hard it is for the English farmer to depart from old ideas. There is an opening for the expansion of the sale of these machines.

There are a few of the old-type windmills still to be seen in this country and it is hard to account why the new steel windmills are not to be seen more frequently. In this line, again, there is a distinct advantageous opening for American manufacturers and exporters.

To get these various goods well to the front and increase their sale here the only successful way is to come into closer touch with the users. It is a mistake to establish agencies and agents in large cities like London and Liverpool. Such establishments should be in the agricultural market towns, or agents who deal in such articles should be appointed at such centers, and it is strongly recommended that reliable and expert representatives should be sent here to demonstrate the advantages claimed for American plows and other implements. Until this is done it will be a most difficult matter for manufacturers and shippers to know the exact type of article required in the various farming countries of Great Britain, where the contour of the land and nature of the soil differ so much.

NORWAY.

AMERICAN PLOWS AND CULTIVATORS INTRODUCED—OTHER OPENINGS.

Consul Felix S. S. Johnson in reporting that American plows and cultivators have been recently imported at Bergen and are preferred to those manufactured in other countries, points out further sales possibilities, as follows:

Large numbers of Norwegian-Americans are daily returning to their native land and purchasing farms, and are demonstrating to their countrymen the advantages of the American agricultural implements over those of this country. It is claimed that more work can be accomplished at less expense by American plows and cultivators, and that there are less repairs required, although prices are higher compared with the home-made article.

Manufacturers of the United States could establish a market for their spades and shovels if they would take into consideration the rocky soil of the Norwegian west coast, where a much heavier article is needed. At present the supply comes from Sweden; these spades are made in the shape of a heart, and in weight are one-third heavier than those manufactured in America. German forks, owing to a lower price, it is said, are gradually replacing those from the United States on this market.

Few lawn-mowers are used in this city, grass being cut by means of a hand sickle. A market could be established if a moderate-price machine could be sold to the local dealers at Bergen. Interested manufacturers may send catalogues and price-lists to this consulate for the use of parties who would probably buy.

MACHINERY MARKETS.**BRITISH SOUTH AFRICA.****SMALL OPPORTUNITY FOR MORE AMERICAN DRILLING EQUIPMENT.**

Consul John H. Snodgrass, of Pretoria, advises that several American firms dealing in water-boring and prospecting machinery have recently made inquiries as to the opportunities for an extension of their trade in that part of British South Africa, to which he replies as follows:

The statistics secured from the customs bureau without further examination would indicate that there is a growing demand for such machinery, especially in the Orange River Colony and Rhodesia, and that the Transvaal is indeed also an attractive field for the exploitation of such products.

In the first nine months of the year 1906 there was sold in this consular district well-drilling and prospecting machinery to the amount of \$569,495. The trade fell off during a similar period in 1907 to \$553,045. Increases, however, were registered in Rhodesia of about \$20,000 and in the Orange River Colony of about \$10,000, while the Transvaal dropped from \$385,090 to \$324,860. The three colonies, however, purchased over 90 per cent of the amount sold in British South Africa.

HOW THE TRADE IS DISTRIBUTED.

This trade was distributed in percentages as follows: United Kingdom, 48.3; Canada, 3.5; Australia, 0.4; Germany, 2.5; United States, 44.6; Belgium, 0.1; all others, 0.6. These percentages, however, include certain agricultural implements and were not restricted to drilling machinery. In the latter line the United States enjoys an absolute monopoly, as the local government and practically all private contractors operate only American machines. The year 1896 saw drilling and prospecting at its height; at that time there were about fifty machines working on the Rand, beside many others on outside claims drilling to depths of 3,000 feet and more.

Of late an impetus has been brought about by the agricultural department, in the direction of boring for water throughout the length and breadth of these various colonies. It was started at first at the Cape and later on branched out in the direction of the Orange River and Transvaal. At the present, however, there is really a cessation of drilling on the Orange River, and there is a gradual decline on the part of independent contractors in the Transvaal because of the subsidy of \$80,000 granted by this government for the purpose of assisting the farmers. The government pays half of the expense attached to putting down a hole where the farmer is willing to furnish the other half. As the government has engaged in the business outside contractors have seen fit to dispose of their machinery and to take up other kinds of employment.

NEW STYLE DRILLS FAVORED—ONE FIRM'S LEADERSHIP.

In an interview with the boring engineer of the irrigation department of the Transvaal he states that recently he has thrown out as unsuitable \$60,000 worth of diamond drills and has supplanted that

machinery with percussion or jumper drills which bore holes from 6 to 8 inches. The diamond drill, according to his statement, could only be used in boring a 3-inch hole and to depths of not more than 150 feet. The irrigation department here is very much impressed also with the chilled shot drill and it is believed that it will naturally take the place of other drills heretofore used.

This machinery has been secured absolutely from American firms, though the government is particularly pleased with the machinery of one special company whose representative at East London also possesses the Orange River and Transvaal territories. Though there are three companies doing a fair amount of business, the one alluded to has been fortunate in securing pushing agents who have, at great expense, laid out a large amount for spare parts and thus have pleased the governments.

Accepting the boring engineer's statement as correct it would not pay other companies not already represented here to send out a representative and attempt to establish agencies; for there are a large number of machines idle, and there is no chance for individual contractors to secure further orders as long as the government subsidy lasts. Moreover, as the government is disposed to purchase only one kind of machine from a particular manufacturer it is not possible to secure orders from its irrigation department. There is therefore but small chance for outsiders to enter the markets of this consular district for the disposal of water-boring and prospecting machinery.

GERMANY.

POSSIBLE OPPORTUNITY FOR MATCH MACHINERY AND HAND PUNCHES.

In reply to an inquiry as to the possible opening in Germany for American match-manufacturing machines and portable hand metal punches, Consul William C. Teichmann, of Eibenstock, furnishes the following information:

Matches are neither made nor sold wholesale in this district, because there are no large cities and consequently no wholesale trade centers in the district, the retailers all buying at jobbing centers in other sections of Germany.

The matches sold here are all of the so-called Swedish kind, but manufactured in Germany. The largest supplies are drawn from Augsburg, Bavaria, through an agency at Leipzig. This is one of the largest concerns in Germany.

In the city of Aue, with 17,800 inhabitants, in this consular district, there are large manufacturers of machinery, tools, punches and stamps for making tin and other metal wares, textile machinery, table cutlery, brass and copper plates and wire, nickelware, hand presses, stencils for heavy tin plate, etc.

SUGGESTIONS TO AMERICAN MANUFACTURERS.

If for any of these lines hand punches could be utilized, and if manufacturers desire to correspond with the respective parties directly or through some European representative, I would advise them to do so in German, with the metric weights and measures given, and prices in

German money. The same advice applies to catalogues and price-lists.

If hand punches could be used in stamping mills of enameled ware there are large concerns at Lauter, Saxony, who do an exporting business to the United States. By direct correspondence with the several manufacturers much could be accomplished, although it would be advisable to ascertain in advance whether they do not manufacture similar machines and punches.

[The addresses of manufacturers in Germany who might be probable purchasers of match-manufacturing machines and portable hand metal punches, which accompanied Consul Teichmann's report, are on file in the Bureau of Manufactures.]

WORLD METAL PRODUCTION.

GERMAN STATISTICS SHOWING OUTPUT OF VARIOUS MINERALS.

From the annual report of a German metal company Consul-General Richard Guenther, of Frankfort, makes the following extracts:

Last year's production of copper, for the first time in fifteen years, shows a decrease; the world's total output in 1907 was 713,000 tons, the principal producers contributing as follows: United States 421,400, England 72,400, Central and South America 57,000, Germany 31,900, Japan 45,000, Austria 32,500, Russia 15,000. The consumption, as estimated, was in tons: United States 232,600, Germany 149,800, Great Britain 108,200, France 65,000, Russia 18,000, and Asia, Africa, and Australia together 32,600.

The world's production of lead in 1907 was about 992,800 tons, an increase of 2½ per cent over that of the year 1906. The largest share in this increase was that of Mexico, whose output of the metal advanced from 54,000 tons in 1906 to 72,000 tons in 1907. The United States produced 340,700, Spain 185,800, and Germany 140,000 tons. The principal lead consumers in 1907 were: United States 351,400, Great Britain 188,000, Germany 187,000, France 81,100, and Belgium 31,500 tons.

The tin production for 1907 was 98,700 tons; the consumption, 101,100 tons. In the latter participated the United States with 39,700, Great Britain 20,500, and Germany 15,070 tons.

The world production of zinc in 1907 was 738,400 tons, which is an increase of 5 per cent over the preceding years, the United States with 226,838 and Germany with 208,700 tons being the chief producers of this metal. In the same year the principal zinc consumers were: United States 200,000, Germany 174,900, Great Britain 140,300, and France 69,600 tons.

The nickel production in 1907 was 14,100 tons, and of aluminum 19,800 tons. Concerning the output of silver and of quicksilver in 1907 there were no complete accounts at date of issuing the report. The report says that 1907 was the most extreme year in regard to price fluctuations and price discrepancies of the metals, and it is worthy of note that the production costs in the most important mining districts have considerably increased, owing to higher wage scales and higher prices of all materials used in mining as also to the gradual exhaustion of the leads and the more difficult task in working deeper.

STOVES FOR BRAZIL.

OPENING FOR AMERICAN LIGHT RANGES AND DRUM HEATERS.

Whether or not there is opportunity for the sale of American stoves in Brazil Consul-General George E. Anderson, of Rio de Janeiro, advises that it seems to be very largely a matter of import duty. He adds:

Up to several years ago there were considerable imports of foreign-made stoves, generally of German, French, and some English makes, but for a number of years the increasing import taxation has practically shut foreign stoves out of the country. There is one firm in Rio de Janeiro which handles a few foreign stoves on orders for customers, but more than nine-tenths of the trade is supplied by stoves of Brazilian make. The introduction of many American, not to say European, appliances would be economical to Brazilians and would bring them much comfort. That such things would be welcomed in time is unquestionably true, but the necessity of introducing them by a sort of educational campaign as to their usefulness should be recognized.

The stove trade in Brazil as a whole is confined almost altogether to kitchen stoves. Even in the mountains of the northern portions of the country heating stoves are unknown. In the uplands of the southern portion a few modern stoves are to be seen, but in general the people of Brazil live without fires for warmth except such as may be had in fire grates. The sort of kitchen stove to be introduced here depends largely upon customs matters. The tariff is fixed by weight and each additional pound in a stove adds to the cost of the stove. The first necessity of the trade in Brazil, therefore, is a light stove.

PROBABLE MARKET FOR THE "RANGE" STYLE OF STOVE.

Stoves with water backs are commonly in use, as made by local manufacturers, and the "range" style of stove common in the United States would probably be found more attractive. There is a variety of wood-burning stove in the United States known popularly as "air-tight" heaters which I think could be sold here to advantage where some form of light warmth-giving appliance is needed, particularly in the higher portions of the Southern States. In Rio de Janeiro some coal is burned and considerable coke is used, but in the country at large the fuel is almost altogether wood.

The import duty on stoves is on the basis of 200 reis per kilo, 35 per cent payable in gold and the remainder in paper. This rate, to which must be added 2 per cent of the value in gold, figures out at about 4 cents per pound. A house which formerly handled foreign stoves and which made one attempt to import American goods tells me that the chief trouble with American shipments heretofore has been in the particularly bad packing which has characterized stove shipments from the United States.

In spite of the high duties an active campaign in behalf of American stoves here would no doubt be successful and with a view of establishing agencies advise American manufacturers to write to firms whose addresses are forwarded. [Obtainable from the Bureau of Manufactures.]

NEW DIAMOND DRILL.

AUSTRALIAN INVENTION THAT FACILITATES MINING OPERATIONS.

Consul-General John P. Bray reports that a trial was recently held at Melbourne in the presence of representative Australian mining men of a new diamond drill, the invention of the officers of the department of mines of Victoria. Mr. Bray describes it thus:

The leading feature of the new drill is its portability, the total weight of the machine being only 400 pounds as compared with 3 or 4 tons—the weight of the machines now in use. The Pioneer diamond drill can be worked either by hand or motive power, being capable of boring 300 feet by the former and 500 feet by the latter process. It bores a 2-inch hole, producing a core $1\frac{1}{8}$ inches in diameter. It is considered that the drill will prove a valuable adjunct in developing the mining industry in this country, as it will be the means of opening up districts hitherto regarded as inaccessible, owing to the difficulties of transporting the heavy drills now in use.

IRON AND STEEL.

PRODUCTION AND UTILIZATION.

JAPAN.

HOME PRODUCT INADEQUATE—COUNTRY'S MANUFACTURING COMPANIES.

The following statistics covering the production and consumption of iron and steel in Japan, and the quantity drawn from foreign countries to meet the growing demands of the Empire in this regard, are furnished by Consul-General Henry B. Miller, of Yokohama:

The great military, naval, and industrial expansion of Japan is calling for an immense quantity of iron. So far as the present developments indicate it is impossible to provide sufficient ore from the mines of Japan and Korea to meet the expanding wants of the country. All indications point to China as a base for Japan's iron supply.

The production of iron ore in Japan for the year 1905 was 126,798 tons and of iron 59,145 tons. For the year 1906 the production of iron from the three principal mines amounted to 40,766 tons.

Judging from all present sources of information and revelations as to the existing sources of raw material in the Orient, together with future possibilities of markets, it seems clear that if there are to be any great iron-producing plants established in this part of the world they will be established in China, where iron, coal, and lime are found in great abundance, where there are apparently inexhaustible fields of coal and minerals almost untouched, and where the expanding wants of hundreds of millions of people will furnish a ready market, and where cheap and efficient labor abounds.

IMPORTS AND PRODUCTION OF IRON.

It is impossible to ascertain the total imports into Japan of iron, machinery, etc., for military and naval purposes, but the imports of 488,434 tons of pig iron and steel, as shown in the succeeding statement, together with machinery made of iron and steel to the value of \$7,084,470, indicates that the total consumption of iron and steel imported for all purposes will reach an amount between 800,000 and 1,000,000 tons per annum. This consumption, against the small production in Japan, shows the dependence of the country upon foreign imports of raw and manufactured iron products.

Notwithstanding the increased production contemplated at Wakamatsu and Muroran there is every probability that there will be an increase rather than a decrease in the importation of manufactured goods of iron for several years to come.

The appended list of imports of iron and mild steel in various forms, crude or manufactured, show that 488,434 tons were consumed in excess of the amount produced. This consumption does not include

large quantities consumed for military and naval purposes; neither does it include a great quantity imported in the form of machinery, hardware, and similar articles. The import statistics are for the year 1906 and show the share of each kind of articles coming from the United States.

Articles.	Total im- ports.	Imports from the United States.	Articles.	Total im- ports.	Imports from the United States.
	<i>Tons.</i>	<i>Tons.</i>		<i>Tons.</i>	<i>Tons.</i>
Pig and ingot.....	112,955	226	Wire and small rod iron.....	5,305	829
Bar and rod.....	94,961	87	Telegraph wire.....	10,968	2,200
Rolls.....	40,024	13,633	anchors and chains.....	2,836	
Rail fittings.....	4,064	1,766	Material for bridge and buildings.....	6,268	3,100
Plate and sheet.....	105,861	8,164	Steel, other than mild.....	7,726	818
Other manufactured.....	39,801	2,961	Steel wire rope.....	1,268	28
Pipes and tubes.....	18,982	7,623	All other.....	98	
Nails.....	27,675	13,966			
Bolts and nuts.....	5,730	308			
Tinned plates.....	3,922		Total.....	488,434	55,289

The following statement shows the production of iron and iron pyrites in Japan for the ten years 1897 to 1906; the figures for 1906 cover only the three principal mines; and all are exclusive of Wakamatsu:

Year.	Iron.		Iron pyrites.		Year.	Iron.		Iron pyrites.	
	Quan- tity.	Value.	Quan- tity.	Value.		Quan- tity.	Value.	Quan- tity.	Value.
	<i>Tons.</i>		<i>Tons.</i>			<i>Tons.</i>		<i>Tons.</i>	
1897.....	31,101	\$501,195	8,472	\$16,105	1902.....	35,700	597,237	20,645	14,121
1898.....	28,109	416,092	9,696	13,846	1903.....	37,568	632,770	17,912	12,897
1899.....	25,629	458,324	9,306	5,584	1904.....	42,381	706,716	27,651	26,545
1900.....	27,602	477,643	17,962	12,933	1905.....	59,145	1,319,559	28,410	37,502
1901.....	32,721	604,614	19,593	13,891	1906.....	40,766	1,065,680	42,155	83,899

JAPAN'S SOURCES OF ORE.

In regard to Japan's sources of supply and its demands for iron and iron ore the following statement was made by an expert who was sent to this country by prominent foreign iron interests to investigate the condition concerning the production and manufacture of iron in Japan:

My strong impression is that the iron-ore resources of this country are quite inadequate for such developments as she is planning. I believe that I am safe in saying that the new steel plant at Murora will be dependent on foreign sources for its ore even more than the present plant at Wakamatsu, which draws over 80 per cent from China. Kamaishi smelts practically all its own ore with an annual output of pig of about 40,000 tons. I really do not know to what extent the Kamaishi output of ore may be increased, but judging from all I can hear the deposit has definite limitations, and is probably doing about all now it can be hoped to do. It is one of a number of "contact" deposits known to exist in Rikuchu Province, evidently the largest known and most accessible. The type of deposit is at best erratic and unreliable.

* * * * *

Kamaishi appears to be the only considerable source of ore, its output being smelted locally, the product amounting to about 40,000 tons pig annually. Outside of Kamaishi and excluding Wakamatsu there are about 10,000 tons of charcoal pig produced in a number of small isolated furnaces with ore from local deposits. These and other deposits supply Wakamatsu with from 25,000 to 35,000 tons of ore annually and the balance of the latter plant's requirements comes from foreign sources. Then, in terms of ore, Kamaishi produces about 70,000 tons and all other Japan about 40,000 tons a year. I do not expect to see any considerable increase over these figures. They may of course rise

in the course of a few years to 200,000 or possibly 300,000 tons, but even the last figure is insignificant for a country with a population of 50,000,000 people. I have little doubt but that Japan will always be essentially dependent on other countries for its iron ore, and will probably continue to be, for many years at least, an important importer of pig iron and steel as well. The Chinese ores which I saw at Wakamatsu interested me exceedingly.

IMPORTS OF MACHINERY AND ELECTRIC APPLIANCES.

Of the imports of iron and steel from the United States there was an increase of but 18 per cent in 1906, as compared with 1900, but the increase of imports of machinery of various kinds, made wholly or largely of iron and steel, was from \$859,415 in 1900 to \$2,601,146 in 1906, while imports from all countries combined increased from \$2,566,664 in 1900 to \$7,084,470 in 1906. This is a most gratifying showing for expansion of trade in machinery made of iron and steel, and it is largely along this line that American trade with Japan is likely to continue to grow.

The lead which the United States has in the trade in electrical machinery and appliances is almost certain to continue. The question of the development of the iron and steel production in Japan, therefore, is of special importance to that class of manufacturers in the United States. The following statement shows the imports of machines and machinery and electric appliances into Japan in 1905 and 1906, and the imports from the United States during the same years:

Articles.	Imports from all countries.		Imports from the United States.	
	1905.	1906.	1905.	1906.
Electric-light apparatus and instruments.....	\$316,328	\$247,785	\$232,251	\$170,203
Electric motors.....	1,227,712	704,158	929,874	430,964
Fire engines and pumps.....	291,408	355,549	132,487	167,677
Implements and tools for farmers and mechanics....	288,487	417,637	103,710	211,982
Lifting machines.....	210,660	543,070	67,737	93,242
Locomotives.....	1,233,280	829,976	471,182	472,773
Drilling and boring machines.....	212,879	312,029	119,342	124,222
Mining machinery.....	244,070	128,153	166,915	70,347
Paper-making machinery.....	200,820	194,513	115,568	109,480
Printing machinery.....	128,347	175,673	37,191	67,889
Sewing machines.....	294,392	260,720	176,880	142,542
Steam boilers and engines.....	1,316,517	1,081,062	14,613	2,902
Spinning machinery.....	709,673	1,219,942	447,112	323,349
Turning lathes.....	1,674,809	560,203	851,418	213,574
Total.....	8,349,982	7,080,470	3,865,780	2,601,146

A NATIONAL STEEL FOUNDRY—YOKOHAMA DOCKYARDS.

The Japan Steel Foundry (Limited), capital \$5,000,000 gold, is a combination between the Hokkaido Colliery Steamship Company, a large and prosperous concern engaged extensively in mining and transporting coal, and the Armstrong, the Vickers, and the Maxim companies of England. The company is organized for the purpose of producing iron and steel at Muroran. It has the support of the Japanese Government, and is expected to produce material to be used by the Japanese navy and army, as well as for the general public. It is reported that a Japanese vice-admiral has agreed to accept the post of superintendent of the new works, at the same time retaining his position in the navy, and many expert naval officers are expected to assist in the construction and in the operation of the new establishment.

It is expected to secure the raw material for the operation of this extension plant, first, from the iron sand on the Hokkaido seashore,

from the Kamaishi mines, located 180 miles south of Muroran on the east coast of the main island of Japan, that are now producing about 40,000 tons of pig iron per annum, and also from a deposit of brown ore near Abuta, Hokkaido, a short distance north of Muroran. Many reliable experts, however, consider all the sources inadequate to provide even a small portion of the requirements of the works, and that ore or pig iron required to carry on the enterprise will have to be imported from China.

The cheapest and best coal in Japan for manufacturing iron is in Hokkaido, along the railway line, a short distance north of Muroran, and the supply is abundant.

The Yokohama Dock Company is situated in the harbor near the station of the Government Railway. Its subscribed capital is \$1,500,000, of which \$990,000 has been paid up. Of this latter amount \$490,000 is allotted for the ironworks department. The company has two docks, which are respectively 514 and 375 feet long, and owns twin-screw towboats for taking vessels in or out of the docks and a floating derrick capable of lifting 35 tons. The plant and tools are said to be of modern patterns, and according to its latest published report the company has had a very prosperous year. For the six months ended November 30, 1907, the tonnage of vessels handled was 213,448, of which 60,493 tons was for foreign vessels.

During the same six months the ironworks department handled 5,564 cases of manufacturing and repairing, of which all but 538 were completed. The total receipts amounted to about \$313,400, and the disbursements to \$236,800, leaving a net profit of \$77,000.

SHIPBUILDING AT KOBE.

The following information concerning the Kawasaki Dock Company, the Osaka Iron Works and Shipbuilding Company, the Kobe Steel Works, and Sumitoma Cast Steel Works is furnished by Vice-Consul Walter Gassett, of Kobe:

The Kawasaki Dock Company's plant, situated at the western extremity of Kobe Harbor, was purchased from the Government in 1886, and formed into a limited liability company in 1896. The capital stock of the company is \$5,000,000, with a bonded debt of \$2,500,000. The company employs 9,000 workmen. There is no proposition under consideration at present to increase the works or issue additional stocks or bonds.

They have now on the stocks in process of construction the following vessels: Two, of 8,600 tons, for the Nippon Yusen Kaisha; three, of 6,000 tons, for the Osaka Shosen Kaisha; one, of 2,000 tons, for the imperial navy; one destroyer and three torpedo boats for the Siamese Government.

The company has nine shipbuilding berths; a graving dock (length 425 feet 6 inches, width of entrance at top 63 feet 6 inches, width of entrance at bottom 51 feet 7 inches, depth over sill 23 feet 9 inches), and two patent slips, 280 and 180 feet in length, respectively. In addition to this shipbuilding plant, the company lately purchased 30,000 tsubo (180,000 feet square) of land, and erected a steel foundry, which commenced work about the middle of last year.

The company is now simply manufacturing electric motors for use in their own mines, and are not taking any outside orders, but is go-

ing to undertake the construction of large vessels at Kobe, as a part of the work of the main dockyard at Nagasaki, and a vessel of 6,000 tons for the Osaka Shosen Kaisha will be commenced at once.

WORKS AT OSAKA.

The first shipbuilding yards of the Osaka Iron Works were established in 1880 at Ajikawa, on a tongue of land in the river, with a water frontage on both sides and an area of 10,000 tsubo (60,000 feet square). Here are, besides the general office, a solid masonry graving dock, the foundry, machine, boiler, and smith shops. There is also a pipe foundry, which covers 54,000 square feet of ground and contains 3 cupolas with a capacity of 15 tons of pipe per day. Air for these cupolas is supplied from 5 blowers.

The new shipbuilding yard was opened at Sakurajima in 1899 and has a water frontage of more than 1,000 feet. It is situated a quarter of a mile from the mouth of the river and half a mile from the pier in the harbor, and is equipped for building all sizes of steam vessels. The river at this point is 1,000 feet wide, and ships having a draft of 18 feet can be launched. The yards for building wooden vessels are located across the river, and are fully equipped for the purpose. On the opposite side of the mouth of the river from the shipbuilding yards at Sakurajima are the Temposan docks, which the firm has recently taken over from the city of Osaka. They are used principally for the repair of vessels, having two docks, one large enough to take ships up to 1,500 tons. The firm employs 4,000 workmen.

Among the works at present on hand the firm is constructing 2 passenger steamers of 1,650 tons each, 1 twin-screw oil tank steamer, 1 passenger steamer of 800 tons, 1 of 750 tons, 1 customs service steamer, 5 bucket dredges, cast-iron pipes for waterworks, 2 floating crane of 20 tons, 1 of 15 tons, 3 crane pontoons, and 1 steel whale-boat.

This foundry produces steel by the Siemens system, and the capacity of one charge is 15 tons. They also make their own gas by which the ore is heated. The machinery is run by electricity, and in the building are two 20-ton and two 5-ton electric cranes. They have recently put in a large hydraulic press of about 2,000 tons pressure, and can now manufacture cast-steel rudders, stern frames, propeller blades, brackets, and stems, steel gearing, pistons, cylinders, and engine castings, ingots, slabs, blooms, billets, and bars of all sizes, forged marine cranks and straight shafts of heaviest description, and all sizes of boilers and marine and land engines.

The company is now manufacturing cars and engines for the Nan-Kei Railroad Company, but can not manufacture guns for naval purposes, as it is against the law for them to do so, not being a Government arsenal. They also have a foundry at Hyogo, covering 30,798 tsubo (184,788 square feet) of ground.

KOBE STEEL WORKS—SUMITOMO CAST STEEL WORKS.

The Kobe Steel Works is a private concern situated near Kasugano, about 3 miles from Kobe, on the Hanshin electric railway. They use acid open-hearth furnaces, one of 8 tons and one of 5 tons. There are 3 steam hammers and 2 electric traveling cranes of 10 tons and 5 tons, respectively. The work turned out is principally marine cast-

ings and forgings for men of war, mining machinery, and railway material. They employ 300 workmen.

The original site of the Sumitomo foundry was in Kita Denbo, along the Denbo River. In 1905 new works were established opposite the Osaka harbor works. On about 12 acres of this site the buildings were erected, one of which is a foundry 75,600 square feet in extent, equipped with 4 electric overhead traveling cranes of from 10-ton to 36-ton lifting capacity. These works turn out yearly 7,200 tons of steel castings by the Siemens system. In the central steam-generating station 4 water tube boilers of 212 horsepower are installed. In the central electric-generating station about 300 kilowatts are generated, from which power is transmitted to the overhead cranes and other motors. About 450 workmen are employed, and the work turned out consists of all sorts of finished steel goods, such as rudder frames 25 feet high, anchors 6 tons in weight, various-sized parts of machinery, etc. There are several small works of this kind in both Osaka and Kobe, those described being larger ones only.

MITSU BISHI DOCKYARD AND ENGINE WORKS.

The following report is furnished by Consul George H. Scidmore, at Nagasaki:

Two steamers, the Tenyo-Maru and the Chiyo-Maru, each of 13,600 tons, were launched by the Mitsu Company for the Toyo Kisen Kaisha, and are expected to begin service at an early date on the San Francisco line. For the Nippon Yusen Kaisha's European line the Kamo-Maru, of 8,770 tons, was also launched. The total tonnage thus completed is 35,770. All these vessels are fitted with turbine engines and are built to the highest class under Lloyd's survey. The company is now engaged in building 12 vessels, with a total gross tonnage of 90,620 tons and 81,550 indicated horsepower. Half of them will be launched this year, the balance in 1909 and 1910.

This company imports most of its material, including heavy castings, but is well equipped for repair work and construction in nearly every branch of shipbuilding, and is adding to its plant. The Mitsu yards are equipped with two large floating docks. Aside from the Government foundry at Wakamatsu and the navy-yard at Saseho, no other extensive iron and steel works are in operation in this district.

STEEL WORKS AT WAKAMATSU.

The following is a British report on the operation of the iron and steel works at Wakamatsu:

The Imperial Japanese Government iron and steel works at Wakamatsu, in Kiushiu, were formally opened on October 18, 1901, rather more than ten years after the first definite proposal of the Government to the Diet for the establishment of model iron and steel works which would render Japan independent of foreign countries for her supply of iron and steel manufactures. The total amount of the sums appropriated for the establishment of the works amounted to nearly \$10,000,000. The area of the works is about 330 acres, including some 82 acres of ground recently purchased for the purpose of enlargement and not yet built upon. The exact situation is Yawatamachi, Onga-Gori, Chikuzen Province, in the northwestern district of the island of Kiushiu. It is quite close to Wakamatsu, the chief port for the export of Kiushiu coal, and about 9 miles west of Moji, the well-known coaling port on the Shimonoseki Straits and northern terminus of the Kiushiu Railway. The position was chosen largely on account of its proximity to the Chiku-Ho coal fields, by far the most

extensive coal-producing district at present known in Japan. This district lies some 30 miles to the south of Wakamatsu, in the provinces of Chikuzen and Buzen, and covers an area of over 300 square miles.

By means of a branch railway coal now can be carried directly to the works from their own mines at Futase, in Chikuzen Province, a distance of 30 miles. An extensive addition of machinery is about to be made at this mine, including an electric power house, equipped with turbine, surface condensing plants, and pumping machinery, all of British manufacture. The present output from the mines is not sufficient to meet the demands of the works, supplementary supplies being obtained from privately owned collieries at Miike, in Chikuzen Province, and the island of Takashima, near Nagasaki. There are two blast furnaces in working order and one in course of construction, to be completed in 1907. The two furnaces now in use produce 300 tons of pig iron in twenty-four hours, one giving 175 tons and the other 125 tons. The ore used at the furnaces is hematite, with some magnetite and limonite. About 80 per cent of this ore comes from the Dayen mines, near Hankow, in China, under special contract with the Hang Yang Ironworks, owners of the mine.

An irregular supply of hematite ore is obtained from Chorem and Katsuzan, in Korea, and a contract has recently been concluded for an annual supply of 10,000 tons of limonite ore from Abuta, in the Province of Iburi, in the Hokkaido (or Yezo) the northern island of Japan. About 12,000 tons of limonite are obtained annually from Yamahara, in Minasaka Province, and small quantities from the Provinces of Tosa and Buzen. It is fully realized that the primary object of the Imperial Steelworks can not be attained while Japan is dependent on foreign countries for the greater part of her supply of raw material. Two mines have been purchased at Akadani and Kama, in Echigo Province, and works were commenced in the former some six or seven years ago, but a committee of inquiry reported that the cost of freight to Wakamatsu would render the undertaking a financial loss.

EQUIPMENT OF GOVERNMENT WORKS.

There are three principal departments in the works, viz, (1) the pig iron, (2) the steel, and (3) the rolling mill. Besides these there are electric central building, central pumping station, iron foundry, repairing shop, pattern shop, foundry and storage, boiler shop, smithy, chemical and mechanical laboratory, inspection bureau, and fire-brick plant. The buildings are lighted throughout by electric light. There are at present two Bessemer converters with a capacity of 150 tons each per twenty-four hours, one charge amounting to 10 tons. In three years' time a third plant will be completed, according to the designs drawn up by the German expert in charge of the Bessemer department. There are now 8 Siemens-Martin furnaces, putting out about the same quantity of molten steel per twenty-four hours as the two Bessemer converters—i. e., 300 tons. A great part of this steel is taken in 5-ton ingots direct to the plate mill.

Under present conditions the works are able to turn out about 90,000 tons of finished material a year. The original plans were for an annual output of 60,000 tons, which would have satisfied one-half of the demands of that time, but the success of the venture and the steady increase of Government requirements have brought about a sensible extension of the original programme. In the course of the next five or six years it is confidently expected that the annual output will amount to 180,000 tons—i. e., double the present output. By far the greatest portion of the products goes to the imperial navy department, the remainder being purchased by the war and railway departments. Materials used at the various arsenals in Japan—Tokyo, Kure, Saseho, Osaka, Yokosuka, and Maidzuru—are largely supplied by the Imperial Steelworks. Practically all the materials for the building of ships of war are now turned out at the works. It should be noted, however, that armor plate is not made here.

The number of skilled and unskilled workmen employed at the works is about 7,000, with 3,000 coolies, bringing the total number of employees up to 10,000. The daily wage paid varies from 9 cents to 90 cents (United States currency). In addition to the building already mentioned there are two hospitals about half a mile distant from the works. Both are equipped with a fully qualified medical staff and modern appliances. At present there are 300 wooden structures for the residence of workmen, and 1,500 are being built. According to a three-years' programme the total number of dwelling-houses is to be 3,000.

CHINA.

LARGE PLANT PRODUCING PIG IRON AND STEEL AT HANKOW.

Vice-Consul-General Willard B. Hull, of Hankow, states that situated in Hanyang, just above the city of Hankow, there is being operated one of the largest manufacturing plants in China, the Hanyang Iron and Steel Works. Having received many inquiries from the United States regarding this industry, Mr. Hull submits the following description:

Looking down upon this plant from a neighboring hill the observer is reminded of the iron manufacturing districts of the United States; huge chimneys, grim looking blast furnaces, and acres of roof covering the steel plant meet the eye. The works stand as an example of what the foreign-educated Chinese can do under proper conditions.

The ground upon which the works now stand was originally a swamp, covered by the river in high water. Viceroy Chang Chih-tung, while in Foochow, had ordered machinery for a steel plant in that place, but just as the machinery was arriving he was transferred to Wuchang. He brought the machinery with him, selected the swamp in Hanyang as a place that could be filled and made suitable for the works and had the machinery erected. A veritable mountain of the finest iron ore was found at a place down the river called Tayeh, and coal was already being mined in large quantities at Ping-hsiang, Kiangsi, about 200 miles up the river. The swamp was filled in to permit the construction of the buildings, and at the time of the building of the Peking-Hankow Railway, in 1898, the plant was able to supply all rails used on the entire line.

REPLACING OLD MACHINERY WITH NEW.

The venture, however, was not at first a profitable one. The managing director, realizing that the works could not pay in the condition in which they were, took steps to secure more modern machinery and to enlarge the mills. All slag from the blast furnaces was used to fill up what remained of the surrounding swamp, thus giving them a much larger area. For the last two years machinery has been arriving from England and Germany to equip the new plant. The Bessemer steel furnaces have been torn out and are now replaced by modern open-hearth furnaces, basic. The steel mills have been greatly enlarged and fitted in the most modern ways, the majority of the machinery being operated by electricity. The works now cover an area of 120 acres and employ 3,450 Chinese laborers, and 20 foreigners as engineers, electricians, and foremen.

Two blast furnaces are now in operation, the daily output of pig iron being 250 tons, and another modern blast furnace of 250 to 300 tons' capacity per day is now in course of construction. Three open-hearth steel furnaces, the daily output of which is 200 tons, are now working and a fourth furnace is just being completed. The steel plant adjoins the blast furnaces and when all improvements are finished the molten iron will be drawn from the blast furnaces into large crucibles on trucks and removed over a short track to the steel furnaces without cooling, as they now find it necessary to do.

The Chinese workmen in the works are satisfactory and afford plenty of cheap labor. Skilled Chinese mechanics and mill men re-

ceive \$5 to \$40 United States currency per month, the average price, however, being about 30 cents per day. Coolies and common laborers are paid about 200 cash (10 cents) per day.

The iron ore is brought to Hankow from the mines in steel lighters, tug boats running up and down regularly. The coal and coke from Pinghsiang is carried down in native boats, which are roughly put together for the one trip down, and after discharging their cargo are knocked to pieces and sold as lumber. The output of iron ore at the mines is 1,000 to 1,500 tons per day, not all of this amount coming to Hanyang, however, as large quantities are shipped direct to Japan. The iron ore analyzes SiO_2 , 5 to 7 per cent; Fe, 65 to 68 per cent; P, 0.1 per cent, showing a remarkably high percentage of iron. The coke-making coal used by the works analyzes: Ashes 10 to 15 per cent, and gas 25 to 28 per cent. The coal mines at Pinghsiang, Kiangsi, are now producing 1,200 to 1,500 tons of coal per day, which, it is expected, will be increased to 3,000 tons a day in the course of a few years. Coke is made at the rate of 400 tons per day and is of a good quality and very suitable for blast-furnace work. About 180 coke ovens are now in use at the mines.

PRODUCTS AND ANALYSIS—ENLARGEMENT PLANS.

The products of the Hanyang Iron and Steel Works are structural steel materials, bar steel, steel sheets and plates, angles, T-bars, steel beams, bulb plates, and railway materials such as standard gage 50 to 100 pounds to the yard, rails, narrow-gage rails, flat and angle fish plates, steel ties, frogs, spikes, nuts, bolts, etc. All steel is made by the Siemens-Martin process and supplied to pass tests and requirements of British Lloyds, British Board of Trade, Bureau Veritas, German Lloyds, etc. The works are provided with testing machines and chemical laboratories in charge of qualified men, and all steel materials, whether inspected or not, undergo a thorough mechanical and chemical test. The analysis of the pig iron is as follows:

No.	Si.	Mn.	P.	S.	C.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
I.....	2.5-3	0.5-1	0.1-0.0	0.02-0.04	3.2-3.5
II.....	2-2.5	0.5-1	0.1-0.0	0.02-0.04	3-3.2
III.....	1.5-2	0.5-0.9	0.1-0.2	0.04-0.05	3-3.2
IV.....	1-1.5	0.5	0.1-0.2	0.05-0.08	2.5-3

The scale of steel qualities is as follows:

No.	Tensile strength.		Elongation (length between marks, 200 milli- meters).	Carbon.
	Kilos per milli- meter.	Tons per inch.		
(0).....	36	23	28-32	0.08
(1).....	36-40	23-25.5	25-30	0.08-0.1
(2).....	40-45	25.5-29	22-27	0.1-0.15
(3).....	45-50	29-32	19-24	0.15-0.2
(4).....	50-60	32-38.5	16-21	0.2-0.3
(5).....	60-70	38.5-45	12-17	0.3-0.4
(6).....	70-80	45-51	8-12	0.4-0.5
(7).....	80-90	51-57.4	4-8	0.5-0.6

I have been informed recently that the Hanyang Iron and Steel Works were about to reorganize and become a stock company, and

that it was their intention, not only to continue with the enlargement of the ironworks, but also to erect about 6 miles down the river from Hankow a large plant for the manufacturing of steel bridges, cars, and other railway equipment, and also all kinds of heavy structural material. It is said that 3,000,000 taels (tael now about 68 cents) will be the paid-up capital of this new company. It is also reported that in the near future the ironworks expect to erect a large cement works in Hanyang. The slag, which has heretofore been thrown away or used for filling, will be utilized in the manufacture of the cement. The American manufacturers of machinery suitable for this new steel factory and cement works should take advantage of this opportunity to sell machinery for their equipment, as I understand that practically none of it has been ordered yet. English and German companies are already active in trying to secure the orders.

An idea of the already large iron business of this place may be gained from the customs figures covering exports for 1907. During that year there were 37,000 tons of pig and manufactured iron exported, valued at \$837,993 gold, of which 1,500 tons went to New York, via Suez, in July. The same year shows 105,690 tons of iron ore, worth \$187,670, exported, the bulk of it going to Japan direct.

BRAZIL.

LIMITATIONS TO THE USE OF STRUCTURAL STEEL IN BUILDINGS.

The following report concerning the use of steel building materials in Brazil is furnished by Consul-General George E. Anderson, of Rio de Janeiro, for the information of American manufacturers:

The possibilities of the trade in steel building materials in Brazil have appealed to a number of the largest American manufacturers of such materials, and there is a well-defined movement to get into the trade in Brazil and South America generally. The nature of inquiries made, however, indicates that there is no proper appreciation of the position of this trade in Brazil at the present time, nor is it likely that it will reach the expectations of many American exporters for some time. There is a limitation to imports of structural steel owing partly to the limited use of steel in the construction of buildings. Another consideration is the high tariffs, which specially affect some lines of what are practically American specialties in building materials.

CONSTRUCTION OF RIO DE JANEIRO BUILDINGS.

Rio de Janeiro has nearly a million people. In spite of the high price of real estate in the central portion nearly all the business houses are three stories, a few are of four, still less of five, and the only two above five stories are those of two newspapers—one of seven and the other of nine stories, the latter being the only building in the city built upon a steel frame, and involving more or less of what is generally known as "sky-scraper" construction. This general use of low buildings is not due to fear of earthquakes or to building regulations, but to the conservatism of Brazilian business men, largely foreign in connections and experience, and to local building conditions.

Buildings in Rio de Janeiro, as the representative city of Brazil, so far have consisted almost altogether of those constructed of stone and those constructed of brick and plastered over to represent stone. Owing to the climate none other than damp-resisting materials can be used. Wood has been out of the question, owing to ravages of white ants and other insects. The use of stone for substantial buildings has been common on account of necessity and of cheapness. The surrounding hills are composed of granite of fair building quality. Stone costs but little more than the labor of preparation and transportation. The alternative has been soft brick overlaid with a cement preparation. Low buildings, without the accustomed "show fronts" of American buildings in cities, do not require steel. For strength and economy general and principal partitions are built from the ground up, affording little room for steel lath or anything of the sort. With stone reasonable in price there is no material economy in the use of concrete blocks. Unless, therefore, there is need of buildings upon the modern principle, such as are common in American cities, there is little use for structural steel.

Further development of the city may lead to changed building conditions and the use of more metal in construction, but at present the trade is small and orders are of corresponding size. The agent of an American concern interested in this trade says that American firms have found no profitable business in this line, and could not take the trade with benefit unless they could secure contracts for extensive work. What steel is now imported comes almost entirely from Belgian and German houses. The saving clause in this connection is that as to the possibility of securing extensive contracts. There is no question but that the erection of a few modern buildings in Rio de Janeiro will lead to the erection of others.

CUSTOMS REQUIREMENTS—TRADE OUTLOOK.

As matters now stand customs requirements in Brazil work to the disadvantage of American exporters of structural steel specialties. Most American manufacturers in this line base their claim to public patronage upon the fact that their products have some special nature, shape, or application, which renders them more valuable than ordinary steel rods or plain steel beams or structural iron, so-called. This fact, in the purview of the customs laws, renders them a finished product rather than a raw material—a manufactured product instead of the means of furthering a native industry. The result is that most of the American specialties must pay a duty of from two to four times that paid by the more common article.

For instance, an American manufacturer of a special system for reenforcing concrete states that its product is dutiable at 400 reis per kilo. This figures out, proportion in gold and all, at about 7.7 cents per pound plus 2 per cent ad valorem for port dues. Plain iron rods or structural rods which can be brought within that class are dutiable at 1.8 cents per pound, and general structural steel 20 per cent ad valorem and an additional 2 per cent ad valorem for port dues. The product of the American concern is little more than plain bars and in a completed building bears the same relation to the whole as bars so employed would bear, but the tariff rules treat it as an American specialty. Such instances might be related in

great number, illustrating some of the difficulties of the trade and explaining how and why it is that the trade is not in as great volume as it might be.

Brazilian builders do not take kindly to steel and concrete construction in general, largely for the reasons outlined and also because they are not accustomed to it, and any extensive steel construction means the importation of labor to deal with. Until they become more favorable, American manufacturers will find it difficult to interest them in the trade. At the same time the value of property in Rio de Janeiro is great enough to require buildings more and more on the American style, and for the revolution in building in Brazil, which is bound to come before long, which is indeed now coming, in the construction of the newspaper buildings referred to, American structural iron makers should be prepared.

FRANCE.

INCREASED OUTPUT SHOWN IN FINISHED STEEL PRODUCTS.

France is making rapid progress in the manufacture of steel, having produced 2,677,805 metric tons of ingots in 1907 as compared with 2,436,322 metric tons in 1906 and 2,240,284 metric tons in 1905.

The production of finished steel products was as follows in metric tons:

Description.	1907.	1906.	1905.
Rails.....	297,762	328,474	303,475
Tires.....	43,845	41,057	22,950
Beams.....	107,483	891,031	754,894
Various shapes.....	* 320,205		
Merchant bars.....	397,621		
Machinery.....	95,302		
Wire.....	57,803		
Tubes and pipe.....	34,737	366,080	312,712
Tin plate.....	36,578		
Sheets and plates.....	352,042		
Forgings.....	33,570	29,773	22,762
Castings.....	31,505	26,549	25,269
Total.....	1,808,548	1,683,567	1,442,071

* Out of this total returns aggregating 160,144 tons lump together beams, shapes, and bars, and 69,318 tons cover various finished products not specified.

FINANCES.

BANKS AND BANKING.

GERMANY.

SAVINGS BANKS DEPOSITS GUARANTEED BY THE MUNICIPALITIES.

In furnishing the following information concerning the savings banks of Germany, Consul Robert J. Thompson, of Hanover, reports that the deposits are absolutely guaranteed by the public property and taxing powers of the municipalities:

The savings banks of Germany have some 19,000,000 pass books out and their deposits amount to 13,500,000,000 marks (\$3,213,000,000). These deposits are practically all guaranteed by the various municipalities of the Empire, and the condition forms a bulwark of confidence in the security of private wealth and earnings that can not be shaken by hard times, panics, bank failures, etc.

An examination of what might be termed the financial page of a local daily paper discloses the advertisements of five different institutions absolutely insuring savings and trust funds, and paying from $3\frac{1}{2}$ to 4 per cent per annum interest on the same. These advertisements are explanatory and helpful toward a general understanding of a condition that is practically universal throughout the German Empire and which, so far as the establishment of confidence is concerned and the encouragement from this standpoint as well of the receipt of a good fair rate of interest for money deposited, would seem to leave nothing to wish for in the way of bringing into use and circulation the savings and cash possessions of the whole population. It will be seen that the municipal or city government stands good for the deposits with its taxing powers which put such deposits on exactly the same basis, so far as security goes, as a city or county bond, which is perhaps as good a guaranty as has been devised. At any rate the thrifty German considers himself well secured by the guaranty of his own city.

GUARANTY AGAINST LOSS IN SAVINGS BANKS.

Of the five mentioned advertisements of savings banks in the local newspaper, two will serve as illustrative of the whole:

(1) Open on working days from 8.30 a. m. to 1 p. m. and from 3 to 6 p. m.; depositors guaranteed by the administration; interest on deposits 4 per cent; withdrawals on demand; safety vaults rented; family pass books issued.

(2) Open every working day from 9 to 12 a. m. and from 3 to 5 p. m.; also on Saturdays, as well as on the first and last working days of the month, until 6 p. m.; savings deposits guaranteed by the city of Hanover; interest $3\frac{1}{2}$ per cent. For deposits made on the first five working days of the month interest is allowed from the first day of the month; in other cases interest begins on the first of the following month. On deposits recalled on the last working-day of the month interest is allowed for the month. As a rule deposits may be withdrawn without term of notice. In addition to the ordinary savings bank pass books, books for wards as well as time-deposit books and rent saving pass books are issued.

With one exception—where a city savings bank was looted many years ago by the director, the defalcation being at once made good

by a special tax—I have failed to elicit any information regarding bankruptcy or failure of any of these savings institutions in Germany. In speaking of the soundness of municipal savings banks, the director of the Hanover City Savings Bank says: "Failures of city savings banks are now impossible, so that losses up to the present time have been out of the question, either for the depositor or for the guarantor."

LARGE NUMBER OF DEPOSITS—PROFITS APPLIED TO MUNICIPAL USES.

The two municipal savings banks of Hanover carry only savings accounts. The total amount of deposits in these two institutions is 91,257,909 marks (\$21,719,382). The total number of accounts in the two banks is very large, being 149,615, making the average for each account about \$150. This figure makes a favorable showing of the economic standing of the community when the large number of depositors is considered in relation to the population.

The profits of these institutions, after the creation of a reserve fund which shall amount to 10 per cent of the deposits, go to the city, and are used for charities and corrections and for beautifying the city streets, squares, and parks. Thus a sense of municipal pride and patriotism is appealed to; and with the highest form of guaranty of safety, the payment of a fair and liberal rate of interest, the establishment of numerous branches for receiving deposits, and the adoption of hours suitable to the convenience of working people, the German savings banks set a fine example to other countries. [The regulations of one of the savings banks and the laws governing the same, which, Consul Thompson says, may be taken as applicable to all savings banks throughout Germany, are on file in the Bureau of Manufactures.]

OPERATIONS OF THE REICHSBANK.

ITS LEGAL STATUS AND MODE OF TRANSACTING BUSINESS.

Consul William C. Teichmann, of Eibenstock, furnishes the following information, compiled from a German publication, and also facts which he secured concerning the development of the leading financial institution of Germany:

The Reichsbank is not a Government institution; on the contrary, it is a stock company, whose shares can be traded on the stock exchange, like those of any other corporation, but it holds an exceptional and privileged position, in so far as it is exempt from German commercial law, being subject solely to the banking law of March 14, 1875, by which it was created. Control of the bank is confined by law to the supervision of a central committee as an advisory and consultant body to a board of directors and its president. The central committee represents the stockholders, and the directors and its president are appointed by the Government. The bank is free from the influence of any private interests, even that of the stockholders, save as their committee is consulted by the board of directors. The imperial chancellor has the right to supreme control, but practically the responsibility for its management rests with the board of directors, and most of all with its president.

The president receives an annual salary of 40,000 marks (\$9,520), with the privilege of residing in the bank building, rent free. The

vice-president receives a salary of 18,000 marks (\$4,284) per annum, and each of the other 7 members of the directorate from 9,000 to 15,000 marks (\$2,142 to \$3,570) per annum, with an allowance of \$350 each for rent. As the income of managers of private banks, because of extra percentage remuneration, largely exceeds the Reichsbank salaries, the directors repeatedly resign their positions to take offices in private banks.

CAPITAL—NOTE ISSUE—RESERVE FUND—DIVIDENDS.

The capital of the Reichsbank is \$42,840,000, and, notwithstanding that no interest on deposits is paid, its deposits at the close of 1907 amounted to 658,000,000 marks (\$156,604,000). Its business has increased to such proportions that 480 branches have been established in that number of communities throughout the Empire.

The Reichsbank has the right to issue bank notes according to its needs, but is compelled to hold as a reserve in its treasury, as security for its circulating notes, at all times an amount of German money equal to one-third of the notes issued. This German money means gold, silver, nickel, and copper coin, the thalers issued by the former independent German States, gold in bars, or foreign coin, the remainder to consist of discounted promissory notes, with maturity limited to three months and guaranteed by responsible solvent creditors.

The reserve fund of the bank includes as security for its notes legal tender. In doing so the legislators took into consideration the non-circulating and noninterest bearing gold held in reserve by the Government in the Julius Tower, at Spandau, near Berlin, amounting to 120,000,000 marks (\$28,560,000). The volume of legal tender uncovered by metal which has been issued by the Government as "Reichskassenscheine" amounts to the value of the gold reserve at Spandau, which is supposed to represent the metal reserve for this legal tender, although there is no legal stipulation to this effect, hence its classification in the assets of the Reichsbank. The Reichsbank is required to cash immediately upon presentation at the Central Bank at Berlin all its notes in German money recognized as current and all notes presented at its branch institutions so far as the cash supplies and money needs of the branches permit.

The issue of bank notes above the fixed legal limits involves a tax of 5 per cent on all notes not covered by metal, and necessitates a raise in discount whenever such an emergency arises. The total amount thus paid by the bank to the Government as note taxes since 1898 up to January 1, 1907, was 17,000,000 marks (\$4,046,000). The bank's metal reserve and legal tender on January 1, 1908, covered 41½ per cent of the bank notes issued, the legal minimum of the reserve being 33½ per cent.

The annual dividend of the bank is 3½ per cent, the remainder of the profits being divided between the Imperial treasury and the stockholders, the first receiving three-fourths and the latter one-fourth thereof. Including the regular dividend of 3½ per cent, each share yielded a total profit of 8.22 per cent in 1906. [Consul Teichmann's report, of which the foregoing is a summary, and the German publications on which his report is chiefly based, may be consulted in the Bureau of Manufactures.]

CHINA.

IMPORTS PAID FOR IN ADVANCE—NEW CURRENCY—BANK EXTENSION.

Consul-General James W. Ragsdale, of Tientsin, supplies the following information concerning Chinese banking and monetary changes:

The exchange banks of Tientsin have notified the import merchants that from June 1, 1908, the present procedure in regard to the delivery of imports will cease, and that the proceeds of all goods delivered before the maturity of the relative bills will have to be paid to the banks on the delivery of the goods. Heretofore merchants of good standing have been permitted to withdraw the goods and deliver to purchasers prior to the time of maturity. This new rule may interfere with trade for a short time, but will, in the end, be a great protection to the merchants, who have frequently suffered severe losses on account of the failure of native merchants.

The director of the Tientsin mint has been instructed to consult with the viceroy about the coinage of bona fide one cash coins which will not have any hole in the center and will be current at ten to the cent. The Empress-Dowager has instructed the officials to call in all the old pierced cash and issue the new coins in their place, and the new coins are to be accepted everywhere at face value.

In view of the good business done by the National Bank of China at Peking and the various other treaty ports and big cities, the Chinese Government has now issued the following new regulations about the extension of its trade:

(1) The capital of this bank will be increased from 5,000,000 to 10,000,000 taels (tael about 70 cents), which sum will be divided into 100,000 shares of 100 taels each; (2) the board of finance will see that no foreign subjects are permitted to become shareholders of this bank; (3) the shares are only transferable among the Chinese people, and they will be canceled and made null and void if the holders sell them to the subjects of any foreign countries; (4) the head office will be established at Peking with branches and agencies at the various treaty ports and big and important business centers throughout the Chinese Empire; (5) the bank is the National Bank of China, but it will transact all descriptions of banking business in the same way as foreign banks in this country; (6) the power of issuing notes will only be invested in this bank; (7) the bank may perform all financial affairs for the Imperial Government of China; (8) in case of monetary crises in any province the directors of the bank are at liberty to memorialize the board of finance for assistance; (9) the bank is placed under the control of the board of finance; (10) the term of franchise granted to this bank by the Chinese Government is thirty years; the term may be extended by permission of the board.

The new issues for shares by the bank have been largely oversubscribed, applications being made as soon as it was known that there was to be an additional capital. This is a notable change coming over public thought and enterprise. The bank has been well managed and is paying.

CHINESE BANK AT DALNY.

GOVERNMENT INSTITUTION ESTABLISHED—FINANCIAL FACILITIES.

Consul Roger S. Greene advises, under date of March 7, that the bank of the Chinese Government, known as the Hu Pu Bank, is about to open a branch at Dalny. He says:

It is expected that it will begin on the 9th instant to receive payment of customs duties, which function it will share with the local branch of the Yokohama Specie Bank, but within a few months it

plans to begin also a regular banking business. Additional banking facilities are much appreciated here at present, especially among the smaller merchants and storekeepers, who are obliged to borrow from private parties at very high rates of interest, in order to meet the drafts against merchandise which they have ordered. Many of the larger merchants also feel that it would be desirable to have more than one bank to which they could go for assistance. When the Dalny custom-house was established last July, a branch of the Seiryu Ginko, a small Japanese bank at Newchwang, was opened here to act as receiver of customs duties, but it has only a small capital. The Hongkong and Shanghai Banking Corporation has an agent here, but does not maintain a regular banking office.

BRITISH INDIA.

NEW RULES GOVERNING THE WITHDRAWAL OF POSTAL-BANK DEPOSITS.

Consul-General William H. Michael, of Calcutta, reports that the following rules governing depositors in the post-office savings banks of India went into effect on April 1, 1908:

(1) The agent of a female depositor withdrawing money from her account will be required to certify on the application for withdrawal that the depositor is alive and sane.

(2) Every suboffice which does savings-bank work, instead of only certain selected suboffices, will repay deposits without previous reference to the head office, provided that funds are available in the suboffice. In the case, however, of applications for withdrawal from minors' accounts, security deposit accounts, and conjoint accounts payment will, as at present, not be made until a warrant of payment is received from the head office.

(3) The limit of the amount of withdrawals without notice from the deposits at call at the credit of a public or a conjoint account has been altered from 2,000 rupees (\$648.87) within 12 consecutive months to 1,000 rupees (\$324.43) within a calendar month.

(4) Deposits in security deposit accounts will be allowed at call and not subject to six months' notice of withdrawal.

MEXICO.

PROPOSED CHANGES IN THE EXISTING BANKING LAWS.

Consul W. D. Shaughnessy forwards from Aguascalientes a Mexican newspaper review of the important amendments proposed by a committee of bankers of Mexico to the existing banking law. They include the raising of the required minimum capital of any banking establishment to \$1,000,000 (Mexican dollar=49.8 cents American currency); banks to be preferred to any other creditors for the payment of credits guaranteed by securities given as collateral; banks of encouragement to be compelled to hold cash or silver or gold bars equal to 20 per cent of the total deposits, first-class securities to 20 per cent of the same amount, and securities liable to be discounted equal to 60 per cent of the deposits—this guarantee not to include the reserve fund intended to guarantee the bonds in circulation.

AUSTRALIA.

INCREASED DEPOSITS IN GOVERNMENT SAVINGS BANKS.

Consul-General John P. Bray, of Melbourne, reports that during the past five years the deposits in the government savings banks in Australia have increased largely. In the year 1902-3 the total de-

positors' balance held was \$175,024,855, which by 1906-7 had grown to \$204,871,324, making \$162.75 the average amount to the credit of each depositor, and representing \$49.55 per head of the total population of Australia. The annual amount paid in interest to depositors in these banks in 1906-7 was \$5,508,104, against \$4,265,346 in 1902-3.

JAPAN.

FAILURES OF PRIVATE BANKS INCREASE POSTAL DEPOSITS.

Consul-General Henry B. Miller, of Yokohama, in reporting that 39 Japanese banks with a total capital of \$38,000,000 suspended payment last year, says that the loss of confidence in the smaller banks has resulted in an increase of money deposited at the post-office savings bank. The total deposits in the latter at the end of March amounted to \$46,460,000, showing an increase of \$722,000 as compared with the amount deposited at the end of last year.

FISCAL AFFAIRS.

GERMANY.

REVENUES FROM THE PRUSSIAN INCOME TAX—NUMBER OF TAXPAYERS.

The following information concerning the income tax of Prussia in 1907 is furnished by Consul-General Richard Guenther, of Frankfurt:

The revenues from the Prussian income tax in 1907 were, in round numbers, 250,000,000 marks (\$59,500,000), against 217,000,000 marks (\$51,646,000) in 1906, to which 5,382,574 taxpayers contributed, against 4,700,000 in 1906. The number of persons paying an income tax was 14 per cent of the total population, against 12½ per cent in 1906, of whom 3,469,758 reside in the cities and 1,912,816 in the country. Of the taxpayers, 557,509 had an income each of more than 3,000 marks (\$714), and of these 430,981 live in cities and only 126,528 in the country.

The number of income-tax payers, according to the various income groups, distributed in cities and country was as follows:

Groups.	In cities.	In country.	Total.	Per cent of the total number.
	<i>Number.</i>	<i>Number.</i>	<i>Number.</i>	
900 to 3,000 marks—\$214 to \$714.....	3,038,777	1,786,288	4,825,065	89.00
3,000 to 6,500 marks—\$714 to \$1,547.....	290,180	97,208	386,394	7.18
6,500 to 9,500 marks—\$1,547 to \$2,261.....	59,581	13,284	72,815	1.35
9,500 to 30,000 marks—\$2,261 to \$7,259.....	65,158	12,472	77,630	1.45
30,000 to 100,000 marks—\$7,259 to \$23,800.....	14,189	2,920	17,109	.32
100,000 and upward marks—\$23,800 and upward.....	2,917	644	3,561	.07
Total.....	3,469,758	1,912,816	5,382,574	100

AVERAGE INCOMES OF THE TAXABLES.

Almost 21,000,000 of the inhabitants were exempt from income tax, while the number of income-tax payers, inclusive of the members of their families, reached 17,000,000. In the cities three-fifths of the population had to pay an income tax; in the country three-tenths.

The total amount on which income tax was paid in 1907 was nearly 12,000,000,000 marks (\$2,856,000,000), against 10,125,000,000 marks (\$2,469,750,000) in 1906. In cities this taxable income was 8,500,000,-

000 marks (\$2,023,000,000), and in the country 3,500,000,000 marks (\$833,000,000). The average income of the taxpayers in the cities was 2,400 marks (\$571.20), and in the country 1,800 marks (\$428.40).

The district with the highest average income was Wiesbaden with 2,900 marks (\$690.20). Frankfort is included in this district, and the high average is undoubtedly due thereto. The district of Berlin has an average of 2,300 marks (\$547.40).

If only the Prussian cities, not the districts, are considered, then the suburbs of Berlin, "Deutsch-Wilmersdorf," where the wealthy Berliners live, leads the list with an average income of 4,300 marks (\$1,024), followed by Charlottenburg with 4,200 marks (\$1,000). Frankfort 3,700 marks (\$880.60), and Wiesbaden and Bonn 3,600 marks (\$856.80).

RUSSIA.

POPULATION, ASSETS, REVENUES, AND EXPENDITURES OF MOSCOW.

Consul-General Frank D. Hill, of St. Petersburg, furnishes the following statistics for the city of Moscow, prepared by the president of its municipal council, coincident with the offering, in London and Amsterdam, of a loan, to be devoted to permanent provisions for the extension of its industrial enterprises:

The population of Moscow has increased from about 1,040,000 in 1897 to about 1,400,000 in 1908. The assets of the municipality are taken at the original cost price without regard to their present greatly enhanced value, and are increasing yearly through the continual purchases of property and extensions of industrial enterprises. On January 1, 1907, their book value stood at \$68,588,000, divided as follows: Freehold land, buildings, etc., \$29,347,575; water-works, \$12,893,540; tramways, \$3,865,590; sanitary works, \$5,904,475; gas works, slaughterhouses, etc., \$7,201,245; Government and other liquid securities, \$9,375,575. The book value in 1906 was \$64,441,950, and in 1901, \$34,902,580. The indebtedness of the municipality on January 1, 1907, was \$29,168,055, outstanding bond issues, \$20,688,065, and temporary advances \$8,479,990. The revenue of the municipality in 1906 was \$12,358,970. For the ten years ending with 1903 a surplus was shown each year in the municipal budget, but in 1904–1907, owing to war and subsequent disturbances, deficits occurred amounting in all to \$1,789,625, inclusive of a voluntary contribution of \$515,000 to the war fund, but these deficits were more than covered by the surplus and reserves of former years.

The estimated expenditures and revenue of the municipality for 1908 are as follows: Expenditures—administration, \$1,215,400; maintenance and repair of streets, \$900,735; schools, \$1,280,290; hospitals, \$2,193,900; workhouses, \$745,205; barracks, police, etc., \$1,328,700; expenses for industrial enterprises, \$4,768,900; service of debt, etc., \$1,807,135; total, \$14,240,265. Revenue—house taxes, \$3,038,500; income on leases of town properties, \$914,640; interest on liquid capital, \$425,390; taxes on hospitals, cabmen, etc., \$2,084,205; miscellaneous revenue, \$786,920; income from industrial enterprises, \$6,990,610; total, \$14,240,265.

The loan will be devoted in the first instance to the repayment of the temporary advances made for the purpose of developing the industrial enterprises of the town, and subsequently to the further extension of such enterprises.

ROUMANIA.

INCREASED REVENUES FROM THE STATE MONOPOLIES.

Consul-General Norman Hutchinson, in reporting from Bucharest that the taxes on the state monopolies of Roumania during the year 1907-8 amounted to a total of \$12,755,353, more or less, furnishes the following details:

This is \$869,325 more than the amount collected last year (reported) and \$2,205,353 more than anticipated in the budget. The list is made up as follows for this year, the increase over last year being in parentheses: On tobacco, \$9,314,394 (\$659,695); cigarette paper, \$1,036,939 (\$96,669); matches, \$716,310 (\$19,907); playing cards, \$158,040 (\$22,078); explosives, \$109,196 (\$8,379); exportation of salt, \$259,972 (\$17,193); stamps, \$2,253,293 (\$165,356).

ESTIMATED SURPLUS OF REVENUE OVER EXPENDITURES.

The following statistics show the estimated revenue and expenditures of the Roumanian Government for the year 1908-9:

Revenue.	Amount.	Expenditures.	Amount.
Direct taxes	\$8,152,320	Ministers of—	
Indirect taxes	12,228,480	War	\$10,455,711
Stamps and registration	4,130,200	Finance	34,131,126
State monopolies	11,261,550	Religion	7,470,306
Public services	20,042,185	Interior	7,628,630
State lands	5,515,747	Public works	14,266,234
Subventions	3,703,477	Justice	1,856,181
From the ministers of—		Agriculture, etc	1,469,047
Finance	11,483,172	Commerce and industry	206,749
Interior	844,365	Foreign affairs	542,616
Justice	311,976	Council of ministers	11,265
Religion	1,372,620	Extraordinary expenses	965,000
Other ministers	279,038	Excess of revenue	322,265
Total	79,325,130	Total	79,325,130

COLOMBIA.

REMOVAL OF MONOPOLY ON HIDES AND PROBABLY THAT ON RUM.

Consul Isaac A. Manning, writing from Cartagena under date of March 27, gives the following information:

The Government of Colombia has abolished the monopoly of hides, and returned to the former practice of charging a small fee for the right to kill beeves for general sale. This monopoly was extended to the Banco Central of Bogota, some two years ago, with a view to maintaining exchange at a fixed rate through the sale of drafts on foreign countries by that concern. Recently commercial exchange on the United States has been steadily rising, until it reached 13,500 per cent or \$135 of Colombian paper pesos for \$1 American gold.

The publication of the decree has already had the effect of lowering the commercial exchange rate 1,000 points.

The former exporters of hides from Cartagena [names on file at Bureau of Manufactures] will no doubt again be in the local market as purchasers and exporters of hides. This move on the part of the Government seems to have given general satisfaction.

It is freely reported that the Government is also considering the withdrawal of the monopoly for the manufacture of rum, and that an offer of \$60,000 gold has been made to the owners of the monopoly in consideration of releasing of their contract. While no agreement

has as yet been reached, the owners of the monopoly demanding \$100,000, it is generally believed that this monopoly will also soon be removed. This will mean the free manufacture of rum, and therefore the improvement of the cane fields of this and other departments. The abolition of these monopolies, it is said generally, will have a tendency to better the economic condition of Colombia.

REDUCTION OF GOVERNMENT EXPENSES.

The Colombian Government, by its ministers, has decided to reduce its expenses provided for by the budget of the present year, to the amounts of \$2,282,278, the principal reductions to take place in the Treasury Department and the Department of the Government. In addition, the capital district of Bogota will reduce its budget to the amount of \$30,000. These reductions will be placed in a reserve fund for reenforcing the outstanding paper money, and in preparing for its conversion into metallic money.

REDUCTION OF TAXES.

GRADUAL REDUCTION ON TOBACCO—FLUVIAL TAX ABOLISHED.

Mr. T. C. Dawson, American minister to Colombia, sends from Bogotá the following report on the reduction of the tobacco tax, and the abolition of the fluvial tax in that Republic:

A decree of the President reduces the tax on tobacco for domestic consumption from the present rate of 15 cents per kilo (2.2 pounds) to 14 cents during May and June, to 13 during July and August, to 12 during September and October, to 11 during November and December, and to 10 cents after January 1, 1909.

Another decree abolishes from and after May 1 the fluvial tax on articles of national production in the process of export and on importations in lots of a ton or more of machinery and materials of iron, steel, copper, zinc, or lead intended for use in national industries. This fluvial tax was imposed for the expressed purpose of using its proceeds for improving the river channels and subsidizing regular steamboat lines.

BRAZIL.

ENLARGEMENT OF THE WATER WORKS AT RIO DE JANEIRO.

Consul-General George E. Anderson, in reporting that the Brazilian Government has made its plans for large additions to the supply of water for Rio de Janeiro, writes as follows:

Additions are now being made which involve an expenditure of 30,000,000 milreis, or substantially \$9,000,000, and which will eventually bring an additional supply of 204,000,000 liters (liter=1.05 quarts) of water per day. The present supply is 146,000,000 liters from 11 stations. These expenditures are made by the Federal Government of Brazil as a national matter. Rio de Janeiro is, like Washington, the capital, and located in a district belonging to the National Government. Water taxes are paid in Rio de Janeiro as in other cities and are not high, comparatively speaking. But the improvements are made by the Federal Government without regard to the income of the system. It is treated as a governmental matter, independent of local income, and the necessity of paying interest on local debts.

CANADA.

PUBLIC DEBT, REVENUE, AND EXPENDITURES OF THE DOMINION.

Consul Harry A. Conant, of Windsor, Ontario, furnishes the following statistics covering the financial condition of the Dominion of Canada at the close of the fiscal year ended March 31, 1908:

The net debt of the Government was increased during the year by \$7,299,886, making the total debt \$260,545,727. The revenue for the year amounted to \$94,708,982, derived as follows: Customs, \$57,532,646; excise, \$15,690,400; post-office, \$6,983,648; public works, \$9,741,998; miscellaneous, \$4,760,290.

The government contemplates an outlay this year based on a revenue of \$110,000,000, i. e., \$16,000,000 more than the revenue of the previous year. Up to the end of December the revenue had been increasing at the rate of about \$1,000,000 a month, but with the first month of this year there was a considerable falling off, the receipts of that month being about the same as those of the corresponding month of the previous year. February shows a falling off of about \$800,000, as compared with a year ago, and March a decrease of \$700,000, but government officials are hopeful that the season of business depression is over and that the increase in the revenue receipts will be ample to cover all of the proposed expenditures.

JAPAN.

PROPOSED REARRANGEMENT OF TAXES ON IMPORTED GOODS.

The British commercial attaché at Yokohama summarizes the principal changes proposed by a Japanese Government bill recently submitted to the Japanese Parliament as follows:

(1) The consumption tax which is now levied as an extraordinary special tax to become an ordinary tax. (2) The tax, which is now levied at the rate of 15 per cent ad valorem on woolen textiles and 10 per cent ad valorem on other textiles, to be levied at a uniform rate of 10 per cent ad valorem on all textiles alike. (3) The present arrangement as regards the payment of the tax on imported woollens, viz, that the importer may obtain a delay of three months before paying the tax by depositing security for the amount payable, to be extended to textiles of all kinds. The bill, if passed, is to take effect from April 1, 1909.

CAPITAL IN WESTERN CANADA.

PROMINENCE OF AMERICAN FINANCIAL AND INDUSTRIAL INVESTMENTS.

In presenting the following report upon the subject of American capital in western Canada, Consul John E. Jones, of Winnipeg, says that fully 90 per cent of all the great business enterprises of that section have American capitalists interested in them:

Financial history, as related to the flow of capital between the United States and Canada, is repeating itself inversely at the present time in the financial relations that prevail between the new country of the Canadian west and capital from south of the international boundary.

Twenty-five years ago there was a dearth of capital to develop the agricultural industries upon which the cities of St. Paul and Minneapolis have grown to their present importance in the grain trade of the world. The capital necessary for their development, it is said, came largely from Canadian banks, the management of which, appreciating the situation as one which would yield a profitable return, stepped in and supplied the financial assistance which enabled the "Twin Cities" to win their grain supremacy. To-day these cities are in a position to come forward with money for investment in the various enterprises in western Canada, where the present conditions as to the inadequacy of available money to the needs of the country are analagous to those which obtained in and about St. Paul and Minneapolis a quarter of a century ago.

At that time, as is always the case in a grain-growing section, the time of acute demand was at that period of the year when the crop was to be moved. It requires a great deal of money to finance a wheat crop, and the banks of Duluth, St. Paul, and Minneapolis were not able to meet the demands made upon them for ready cash. The situation was relieved by Canadian banks loaning money on warehouse receipts—that is, upon grain in store and yet to be sold to final purchasers. Now these cities are not only able to take care of their own financial affairs, but they are also lending very substantial aid to the city of Winnipeg, which is in much the same situation as the American cities were then.

OPPORTUNITIES FOR INVESTMENT.

Located at the gateway of a vast and immensely productive country, Winnipeg offers opportunities for investment which the banks of the section lying directly south of the Manitoba trade center fully appreciate. Individual capitalists are not slow in taking advantage of opportunities that promise so much in immediate returns. That these opportunities will enormously increase can not be doubted. New settlers from all over the world, many of them from the United States, pour in a steady stream into western Canada, and the wheat crop, which has been hovering around the 100,000,000-bushel mark, will soon reach 150,000,000 and in a few years double itself. To this yield of wheat must be added other millions of bushels of coarser grains, all of which make up no inconsiderable factor in the sum total of those things which call for the presence of money in large amounts for the purpose of financing their transportation and sale.

Internally Canada is unable to supply the financial needs demanded by the rapid development that is going on in the western part of the country. Eastern Canada is fast becoming a great commercial and industrial section, and so much of local capital is absorbed in the growth that is developing along these lines that there is little to spare for the great and growing needs of western Canada. There is in fact a real shortage of capital for use in furthering manufacturing and commercial enterprises, and this shortage American capital must supply. [A list of American industrial concerns in that part of western Canada, forwarded by the consul, is filed for reference with the Bureau of Manufactures.]

SWINDLING SCHEMES.**UNCLAIMED FOREIGN ESTATES—ADMONITION FROM SPAIN.**

American diplomatic and consular officers in Europe have at various times directed attention to efforts by designing parties to obtain money from citizens of the United States through false representations, consisting of statements to the effect that large unclaimed estates of decedents awaited the claims of the legitimate heirs in the United States. Schemes of this dishonest character have been exposed in reports from Great Britain, Germany, the Netherlands, Belgium, and Spain, but in spite of the publicity given these organized swindles, they resume operations after intervals of a few years. The minister from Spain at Washington has informed the Department of State that his Government has taken steps to suppress the swindle in that country. In his note to the Secretary of State the minister writes:

The energetic campaign undertaken by His Majesty's Government against the international association of swindlers by the so-called "burial" process has resulted in the discovery at Madrid of a private, clandestine office where these crimes are hatched. The person in charge of this office has been arrested, and books have been taken from him which contain the addresses of persons residing in this country; likewise, a large number of letters being prepared to be sent to the unwary individuals selected as victims or accomplices in this nefarious business.

While bringing this to your excellency's knowledge, I wish to ask you at the same time to employ the various means at your disposal in order to give the greatest possible publicity to the matter, either through the press or by any other means which you may deem appropriate in order to prevent American citizens to whom these parties may write from being swindled, provided there are still branches of this secret society existing.

ECONOMICS.

EDUCATIONAL ADVANCEMENT.

GERMANY.

PROVINCE OF ALSACE-LORRAINE OFFERS TECHNICAL COURSES.

Consul William J. Pike, in the following report from Kehl, calls attention to the encouragement given by the German authorities to mechanics seeking to become superior workmen:

There is no nation in the world that gives greater encouragement and opportunity to its people to become skilled artisans than Germany. Municipal, State and the Federal governments all contribute to the establishment and support of technical and industrial schools, and there is scarcely a city or town of any importance where one of these splendid institutions is not found.

Any law or regulation that tends to encourage and lift up laborers and mechanics to a higher degree of proficiency finds ready and hearty indorsement. The department of interior of the imperial ministry of Alsace-Lorraine has arranged the following courses of instruction for those workmen who desire to attain that degree of proficiency which will entitle them to be called masters in their respective trades.

It must be understood that the applicants for these masters' degrees are practical and skilled workmen, with years of experience in their different lines of work, and by means of these tests are ambitious to become recognized as finished artisans. For instance, a tailor who has successfully passed such a test will be known as "Schneidermeister" (master tailor), and, since such distinctions mean a great deal to a workman in Germany, the artisan eagerly strives to attain that proficiency when he is recognized as a master of his trade.

SIX PRACTICAL TECHNICAL COURSES.

Besides the excellent trade schools and the necessity of long apprenticeships, which train the journeymen of Alsace-Lorraine, the ministry at Strassburg has made possible the following courses:

(1) A master course for bookbinders, upon the completion of which the workman is known as a master bookbinder. This course is conducted in Strassburg by an expert instructor from an industrial school of North Germany. Instruction is given in the details of binding books, especially the different color effects, artistically cutting the paper—square cornered or round—the art of putting the leaves together in such a way as to insure greatest symmetry and durability; the tasteful decoration of the cover; the study of the different kinds of binding, such as leather, half-leather, morocco, cloth, paper, etc.; what bindings are best suited to an atlas or album; the study of attractively indicating the title of the book; the best method of dividing a large work into volumes. Besides these practical phases, lec-

tures are given and exhibitions are made of the best products in the art of bookbinding.

(2) In the courses for tailors, most of the attention is devoted to the instruction in cutting and fitting, the drawing of the latest patterns, etc., as well as the studying of the quality of goods and color effects.

(3) The master course for painters consists of practical lessons in wood and stone painting, proper shading, and the painting of figures, signs, and other artistic work. Exhibitions are also made in different public places, when the painters' names are indicated, and in this way serve, in a certain sense, to advertise their work—though that is incidental.

(4) A master course for locksmiths, mechanics, plumbers, and tinnery is given in the fundamentals of electricity, building, and insurance requirements, as well as the proper wiring of buildings. The putting in of telephones, different methods of lighting—gas or electricity. Practical illustrations are taken from model houses and buildings.

(5) A master course for cabinetmakers in which the latest tools, different kinds of wood and their respective uses, and practical work in polishing, staining of wood, as well as the study of the latest material in the finer lumber for such work.

Further, each participant must be able to sketch a model workshop, figure out the cost of the raw material compared to the finished product; and visits are made to the art museums and large furniture establishments.

(6) Similar courses are given for paper hangers, decorators, potters, carpenters, well diggers, and all workmen where any skill is required.

EDUCATIONAL GYMNASIUMS.

A NINE-YEAR COURSE COVERING AN EXTENSIVE CURRICULUM.

Consul Talbot J. Albert, reporting from Brunswick, presents the following brief review of one of Germany's excellent educational systems:

A "gymnasium" is translated in the dictionary as a grammar school and as a high school. It is more than either. The classical, mathematical, and literary standard of the last years of a gymnasium course is equal to that of the first years of a first-class American college course. The gymnasium has a systematic course of instruction for nine years. The average age of entry into a gymnasium is between 10 and 12 years and the average age of graduation is 20 years. Students who successfully pass through the first six years of the course can be admitted into the army as a "one year soldier," (Einjähriger) thus saving one year of military service.

In the Brunswick gymnasium, which may be taken as a model of this kind of school, the works of the principal Latin and Greek authors are read, and the higher mathematics, the physical sciences, and ancient and modern history are taught. Special attention is given to literature and composition. In the last three years essays are required to be written on difficult and abstruse subjects. The nine classes of a gymnasium are designated as sexta, quinta, quarta, unter-

tertia, obertertia, untersecunda, obersecunda, unterprima, and oberprima.

Hitherto English has been taught to only a limited extent, the course consisting of two hours a week in the last three classes mentioned. Extracts from the works of Washington Irving, selections from Macaulay's History of England, and one play of Shakespeare are read as models of pure English. Much more attention has been devoted to the cultivation of the French language, the study of which begins in the Brunswick gymnasium with quarta, consists of three hours a week and continues to the end of the school period. While an examination is required in French, none is required in English.

MORE ENGLISH INTRODUCED—ATTENDANCE SYSTEM.

In November last, however, the Prussian minister of instruction issued an order in which he stated that on account of the importance which the English language has in reference to literature, commerce, and politics, it is desirable that the scholars of a gymnasium at the close of their education at school should at least be so familiar with it as to understand the reading of English books and what is necessary to further self-education in the use of a foreign language. He thereupon directs that in place of the obligatory instruction in French in the last three classes English shall be taught for three hours weekly, and the two-hour instruction in French be left to the choice of the student. It is possible that this order may be followed in other States of Germany.

The gymnasium in large cities as Brunswick has two annual commencements or periods of admission, Easter and Michaelmas. In winter the hours of instruction are between 8 a. m. and 1 p. m., and in summer between 7 a. m. and 12 m. There are usually two hours of instruction, consisting of one hour of classics or physical science, and one hour of calisthenics in the afternoon. There are four vacations—a fortnight at Christmas, a fortnight at Easter and Michaelmas. The summer vacation is for one month, from the beginning of July to the beginning of August. The only free day is Sunday, instruction being given on Saturday the same as on any week day. For this reason a German scholar has one-fifth more time devoted to his education than the scholars of countries where Saturday is observed as a holiday. The hours of instruction and the thoroughness of method practiced in the gymnasia are generally characteristic of German schools.

CANADA.

ATTENDANCE REGULATIONS VARY IN THE DIFFERENT PROVINCES.

Vice-Consul-General Patrick Gorman sends from Montreal the following summary of the requirements of the different Canadian provinces as to school attendance:

Quebec.—The payment of the fees of school children is compulsory, but there is no provision under the law compelling the attendance of children at school.

Ontario.—Under the terms of a special act respecting truancy and compulsory school attendance, every child between the age of 8 and

14 years must attend school for the full term each year, unless he has passed the entrance examination for high schools, or under certain other specified conditions. The employment of school children during school hours is prohibited under a penalty of \$20, unless the child is required in husbandry, or in urgent or necessary household duties, or for the necessary maintenance of himself or some person dependent on him. The act also provides for the appointment of truancy officers and defines their duties. The onus of proof as to the age of the child lies with the defendant in any action.

Nova Scotia.—Children between the ages of 6 and 16 years, if physically and mentally capable, must attend school for at least one hundred and twenty days in the school year, but a child over 12 years of age who passes a satisfactory examination in grade seven of common school work, and any other child over 13 years of age who has attended school sixty days during fourteen consecutive weeks in the preceding year, if necessity requires him to work, may be exempted from the foregoing provision on permission of the local school board.

New Brunswick.—A comprehensive act providing for the compulsory attendance of children between the ages of 7 and 12 years at school was passed in the year 1903. Provision was made in a special way under the act with reference to the employment of children below the school age.

Manitoba.—Under the Manitoba public school act it is declared that every person in rural municipalities between the ages of 5 and 16 years, and in any cities, towns, and villages between the ages of 6 and 16 years, shall have the right to attend school. Attendance, however, is not compulsory.

Saskatchewan and Alberta.—The attendance at school of children between the ages of 7 and 12 years, inclusive, is compulsory for a period of at least sixteen weeks each year, eight weeks of which time must be consecutive. Provision is made for the investigation of cases of nonattendance, and the appointment and proceedings of truancy officers.

British Columbia.—Every child from the age of 7 to 14, inclusive, must attend some school or be otherwise educated for six months in every year. Exemption is granted in case the child has reached a standard of education of the same or greater than that to be obtained in the public schools of British Columbia.

CHINA.

ESTABLISHMENT OF A CENTRAL NORMAL SCHOOL AT PEKING.

Consul-General James W. Ragsdale, of Tientsin, advises that the Chinese board of education is going to establish a Shih-fan Hsuehtang, or civil normal college, in Peking for training teachers for service in the various civil schools and colleges throughout the Empire. In addition to Chinese classics, English, French, German, Russian, and Japanese will be taught in the proposed college, under the instruction of experienced teachers. The college will be established in the Chinese city in the course of the present year, and the annual expenditure is estimated to be about 100,000 taels (about \$70,000).

MEDICAL SCIENCE.

BRAZIL.

GOVERNMENT CAMPAIGN AGAINST TUBERCULOSIS IN CITIES.

Consul-General George E. Anderson reports that the Federal Government of Brazil is preparing a campaign against tuberculosis in the cities of the Republic, especially in Rio de Janeiro, equal to that against yellow fever, which has placed that city among the most healthful cities of the world.

The present number of deaths due to consumption in Rio de Janeiro and in Brazil generally explains the extraordinary measures to be taken by the Government against tuberculosis according to the announced plans. The tables of mortality of the Federal district show that out of a total of 14,660 deaths in 1905, 2,663 were due to pulmonary tuberculosis, as compared with 287 from the dreaded yellow fever. In 1906, out of a total of 13,956 deaths 2,649 were from tuberculosis, while in 1907 out of a total of 13,014 deaths 2,587 was the proportion. Therefore of all deaths in Rio de Janeiro, during those years one in five was due to consumption, and that, too, in spite of the highly commendable work done by the League Against Tuberculosis hereinafter mentioned, whose efficacy is already shown in the slightly decreased record for the past two years. What systematic work in sanitation can do, however, is shown in the totals of deaths given in the case of yellow fever. In the latter disease the deaths in 1905 were 287, in 1906, 42, and in 1907, 39. The disease is stamped out, so far as the general public in Rio de Janeiro is concerned, the few cases noted arising in out-of-the-way places and being so well guarded and pursued that all danger of epidemic under present regulations is done away with.

THE NEW CAMPAIGN AGAINST THE DISEASE.

Naturally, with such success in disposing of yellow fever back of them, the sanitary authorities of Brazil feel that something can be done against tuberculosis. There are 26 cities in the country which are included in the plans outlined in this report, but for the time being, and with the initial expense, most attention will be paid to Rio de Janeiro as the capital and chief city of the nation. This new campaign involves the expenditure of \$1,250,000 as a beginning of the movement. The plan includes legislation which may have a marked influence upon similar movements in the world generally. The Brazilian project includes as its material features:

The compulsory reporting of every case of tuberculosis to the sanitary authorities; the complete assumption of charge of all cases of tuberculosis by public authorities, in which infectious cases are separated from the public and patients supported by the public; the establishment of hospitals, with complete isolation, for tuberculosis-infected invalids, and of hotels and boarding houses, agricultural colonies, and sanatoria for those not invalid; the absolute refusal of admission into Brazil of any person or animal having tuberculosis; the inspection of all foods and materials likely to carry bacilli of the disease, with power to destroy anything infected;

and the betterment of food, housing, and other conditions of life for the large mass of the population in which tuberculosis is raging, for the prevention of the disease by fortifying the people against it by improving their general health.

No modern means for combating the disease is to be neglected and there is to be given full effect in Rio de Janeiro to practically all methods of fighting the disease which sanitary officials the world over have been working for at various times and places.

ASIATIC TURKEY.

MANY MINERAL AND HOT SPRINGS IN THE VILAYET OF SMYRNA.

Consul Ernest L. Harris furnishes the following information concerning the mineral waters and hot springs of the vilayet of Smyrna:

Among the bathing places in vogue are the springs at Tchesme, which are visited more than any others. From all parts of the Turkish Empire invalids come in large numbers to take the waters. The waters are sulphurous and saline, with a temperature of 135° F., and are highly recommended for rheumatism and skin diseases.

Within 7 miles of Smyrna are the hot springs of Lidja, which were known to the ancients under the name of the Baths of Agamemnon. They are useful against rheumatism. Between the springs of Tchesme and Lidja is a spring of saline waters, very similar to those of Carlsbad, much used as a curative for liver complaints.

The district of Pergamus boasts of several hot springs, the best known of which is at the village of Kinik. There are also hot springs in the district of Kouch-Adassi, which are popular locally. Three miles southeast of the ruins of Sardes, the hot springs still exist which were so renowned in ancient times. They are now little frequented, owing to their isolated location on the mountains.

At Alacheir, the ancient Philadelphia, a native company is bottling up the water of the Sarikiz spring, which is similar to Apollinaris, and which is now being exported in ever-increasing quantities. So much is this water now used in Smyrna and other cities in Turkey, that European bottled water has been practically shut out from the market.

Several hot springs are located near the city of Aidin, some of which have the reputation of healing wounds. All the waters of the Lycus valley are mineral, and most of them are thermal. Those of Hierapolis are still visited by the native population in great numbers. This Hierapolis spring goes up to 190° F. All the mineral waters of this valley have incrustating properties.

According to a recent circular issued by the competent authorities, the exploitation of mineral springs in this vilayet, of whatever kind, will be granted, after analyses have been made, to the parties offering the highest royalty to the State.

BELGIUM.

NEW SERUM CURE FOR PNEUMONIA DEVISED BY A EUROPEAN SCIENTIST.

Consul-General Henry W. Diederich, writing from Antwerp, gives this account of another step for the alleviation of pneumonia:

The increasing therapeutic use of serum of animals immunized by bacteria and bacterial products is one of the most remarkable charac-

teristics of modern medicine. In the treatment of pneumonia, or inflammation of the lung tissue, the results obtained with serum treatment, though they have fallen short of the brilliant results obtained by the prompt use of diphtheria antitoxic serum, have been very encouraging.

There are various preparations in use in this country, in Germany and Switzerland, but they must be applied in rather large quantities and in oft-repeated doses. In cases of moderate severity not less than 50 grains and, in severe cases, 100 grains and even more must be given, thus injecting at least four to five times the initial dose. To overcome this difficulty Dr. Leon Bertrand, a noted bacteriologist of Belgium, has set himself to the task of preparing a serum that may be applied less frequently, in smaller doses, and with more beneficial results.

In a paper recently read before the Medical Society of Antwerp this scientist claims to have been successful, and he is now preparing a work making known the details of this new serum cure of pneumonia, which is a bactericidal, not an antitoxic agent. It is to be hoped that future results will bear out the good hopes which he now entertains of it.

CONDITIONS IN INDIA.

IRRIGATION, EVEN BY CRUDE METHODS, THE COUNTRY'S SALVATION.

Consul-General William H. Michael, of Calcutta, furnishes the following information, as the result of a trip through the United Provinces of India:

The results of irrigation obtained by hauling water from wells by means of a pulley and bullock power, and by the Persian wheel are surprising. Sufficient water is obtained in this way to irrigate fields of wheat, many kinds of grain, mustard, root crops, and garden truck. The amount of land thus rescued from the drought fully illustrates why it is that the droughts which burn and crack the soil of the Indian plains are not more destructive of human and animal life. But for irrigation—that furnished by the canals, and, especially, by wells—the horrors of the situation in India this year could not be adequately told. As it is the people are keeping together, are able to live by economy, and to feed their stock. I saw no lean stock, and the people looked fairly well fed. The Government is supplementing the efforts of the people to live, by direct relief, by test and public works, that is, creating work on railroads, telegraph lines, canal repairs, and many other ways.

CYCLES OF GOOD AND BAD YEARS.

It may be truthfully said that the millions in India were never in as good condition to fight off famine as now. There will be suffering and starvation in remote parts, but on the whole the British-India Government and the people are to be congratulated on the results of vast endeavor to ward off famine. Notwithstanding this the official report on the administration of the United Provinces is none too assuring. It should be borne in mind that all of India on the plains does not suffer to the same extent in the same years. Tracts of country are visited by what may be described as a cycle of lean years. The

Central Provinces have apparently just emerged from such a cycle, and the United Provinces are just entering into one.

In these provinces the magnificent crops of 1904 were blighted by the frost in January, 1905, and the people awaited the monsoon with unusual anxiety. Unfortunately, the rainfall was scanty and badly distributed; and in tracts which had suffered severely from the frost, not only was the autumn harvest, where unirrigated, a complete failure, but winter sowings were restricted by lack of moisture in the soil. Nor was the cold weather more propitious, for there was no rain till February, when it came too late to avert a famine. The monsoon of 1907 was, as is well known, a failure, and the result is that nearly the entire area of the United Provinces is now in the throes of an acute famine. The two first measures now adopted in the event of a failure of a harvest are the remission or suspension of land revenue, with a consequent remission or suspension of rents, and the distribution of liberal advances to agriculturists. This policy was put into operation during the 1905-6 scarcity, and the relief granted amounted to \$1,200,000 in remission and \$886,665 in advances.

HOTEL FOR THE POOR.

PATRONIZED BY ALL CLASSES AND NATIONALITIES.

The following information concerning the progress of the Italian society which has control of the hotel for the poor in Milan is forwarded by Consul James E. Dunning, having been prepared by Clerk Siersdorfer:

The hotel for the poor in Milan was opened seven years ago, and a dormitory therefor was started four years ago. The work of the society is officially said to be steadily progressing and receiving much encouragement. The society's capital is \$82,955, and provisions donated amount to \$13,124. The net profit for 1907 was \$5,216, although expenses for improvements are stated to have been relatively high. The daily earnings of the hotel amounted to \$61. The average daily earnings of the restaurant was \$40.

The callings of the 453 daily inmates of the hotel were as follows: Lawyers, mathematicians, etc., 18; students, 8; clergyman, 1; soldier, 1; painters, sculptors, engravers, and photographers, 19; musicians, singers, and actors, 13; traveling salesmen, 37; office and store clerks, 89; printers and bookbinders, 11; street venders, 10; mechanics and electricians, 21; cabinetmakers and carpenters, 16; tailors and shoemakers, 7; bricklayers and stonecutters, 15; laborers, 73; peasants, 17; cooks and waiters, 20; business men, 29; foreigners, 48. Among the foreigners were Americans, English, Germans, Russians, Roumanians, Poles, French, Japanese, and Africans, who had heard of the Milan hotel called "Albergo Popolare" prior to their arrival in the city.

The average daily number of inmates in the dormitory was 316 men, 36 women, and 6 children, making a total of 358 persons. The average daily earnings of the dormitory amount to \$21.19, which is a decrease of about 14 cents per day from 1906. Beds cost from 4 to 6 cents per night.

Hotels for the poor, similar to that in Milan, are being built in many of the principal cities of Italy.

TARIFFS.

CHANGES IN REGULATIONS.

ARGENTINA.

MINING MACHINERY TO BE ADMITTED FREE OF DUTY.

Consul-General Alban G. Snyder, of Buenos Aires, reports that a revised law which became effective on October 9, 1907, exempts from customs duties, for ten years, all machinery and materials necessary for the installation and exploitation of mining and metallurgical establishments which exist at present or which may hereafter be established in the Argentine Republic. Drilling concerns using waters of the subsoil are also included in this law. Expenses incurred in verifying materials introduced shall be paid by the party soliciting exemption from duties. In each case, application in writing should be made to the corresponding custom-house.

AUSTRALIA.

ADMISSION OF PATENT MEDICINES.

Under date of April 1, 1908, Consul Henry D. Baker reports that a large shipment of patent medicines made by a certain firm of American manufacturers has been detained at the custom-house at Hobart, Tasmania, because of conflict with the provisions of the commerce and trade-mark laws of the Australian Commonwealth. Referring to the incident, the consul writes as follows:

It might be well for the patent-medicine proprietors of the United States to be warned from this instance that they will incur risk of large losses if they export goods to Australia containing labels or which are wrapped with circulars making large claims as to their curative properties. As American patent medicines have an important market in the Australian States, great care must be exercised by exporters in adhering strictly to the local customs regulations. In the particular instance to which I refer the collector of customs has written to the importer a letter stating that the goods "are detained on account of extravagant claims made as to their curative properties. The statements on the cartons, labels, and so forth, are extremely misleading. Analysis showed that though no drugs enumerated in regulation 6 (2) (b) were discovered,^a the preparation

^a Regulation 6 (2) (b) referred to in the consul's report reads as follows: "In the case of medicines prepared ready for use, and containing any of the following drugs (or the salts or derivatives thereof), viz., opium, morphine, cocaine, heroin, stramonium, nux vomica, cannabis indica, bromides, sulphonal, trional, veronal, paraldehyde, or any synthetic hypnotic substance, phenazonum, phenacetinum, or acetanilidum, or any allied synthetic substance, chloral hydrate, belladonna, cotton root, ergot, or any abortifacient, the trade description shall set out the names of all such drugs so contained."

contained 37 per cent proof spirit and that it contained no sulphur, as alleged."

The importer was further informed that "provided all objectionable matter was removed and that a correct trade description was applied, delivery would be given, and that the label and wrapper, containing fallacious advertisement, would have to be removed."

I examined one of the wrappers in the shipment and counted 40 different maladies that the medicine was alleged to cure. Had the medicine been a cure for 39 less maladies it would have had a better chance to get through the Hobart custom-house. Of course, once the cases are opened and all this advertising material removed, and the labels taken off or corrected, the medicines evoke suspicion and become practically unsalable.

The Australian regulations are very strict in forbidding import of goods in which the trade descriptions are at all inaccurate or exaggerated, and copies of these regulations should be obtained and perused by American merchants who would like to cultivate business in Australia.

[Copies of the trade-mark law and regulations are on file in the Bureau of Manufactures.]

BRITISH SOUTH AFRICA.

PROPOSED REVISION OF THE CUSTOMS TARIFF.

Consul E. S. Cunningham, of Durban, Natal, writing under date of April 16, sends the following report on the forthcoming tariff revision in the British South African Customs Union:

The Customs Union Convention of the Colonies of British South Africa, of 1906, terminates on June 30, 1908, notice having been given by the Transvaal of her intention to withdraw from the present convention on that date. At present the union is composed of the British colonies of Natal, Cape Colony, Transvaal, Orange River Colony, and Southern Rhodesia. A convention has been arranged by the colonies to meet in May at Pretoria for the purpose of formulating a new joint tariff upon the same lines as the former, with such alterations as may be agreed to; and as a preliminary to this convention the different colonial governments have appointed commissions to hear proof and report upon various questions which will be useful to delegates in securing equitable rights in this convention for their colonies. The report of the Natal commission has now been published, containing a great deal of evidence presented to the commission and the commissioners' report.

INDUSTRIAL PROTECTION.

This report strongly advocates a protective duty as being absolutely necessary to a new country's progress, and "the protection must be adequate or it is no protection," and to be adequate it must enable the manufacturer or producer "to sell his product in competition with the imported article." If the commission's report is accepted as an index to what the new convention will arrange no reduction in duties will be made. An increase of duty is recommended in many cases, while but few reductions appear in the recommendations. In the report the principle "of admitting raw materials free, where there is no valid reason against such course," has been followed.

The list of the industries represented by witnesses appearing before the commission is interesting as forming the scope of the inquiry and enabling us to form some conception of the character of industries which, afforded adequate protection, will, it is considered, prosper in Natal. Some of the industries are well known as very important to the colony, but the greater number are in but their initial stages. The complete list of industries comprises:

Bricks, fire bricks, and "hollow bricks" for buildings; building; candles; cement; chemical works, including manures, disinfectants, dips, cattle food, chemical compounds, tinctures, Dutch medicines, etc.; cigarettes; confectionery, including cakes, biscuits, and sweetmeats; creameries; distilling; foods (patent); fruit-sirup manufacturing; iron and brass engineering, including engine and boiler making, casting, iron structural work, rolling stock erection, agricultural implements, and pig iron; leather, including tanning, boots, shoes, leggings, belting, bags, harness, and saddlery; matches; milling, including products from wheat and maize; paper making; printing, including bookbinding; preserving, condiments, curry powders, sauces, jams, chutneys, and pickles; planting, including sugar, tea, tobacco, etc.; soap making, including oil pressing and glycerin; tailoring and apparel; tent, sail, sack, and tarpaulin manufacturing; wagon and carriage building; zinc and tinware manufacturing, including ridging, guttering, downfall pipes, baths, pails, dairy utensils, etc.

The question of British preference is considered by the commissioners, and although they evidently are in favor of embodying a preferential clause in the new convention they make no definite recommendations, because the task of procuring the data necessary would have been impossible within the time afforded them. It is stated, "that, so far as witnesses have referred to the amount of preference to be allowed to the United Kingdom and reciprocating colonies, they have practically been unanimous in suggesting an increase upon the present 3 per cent, which appears to be ineffective and consequently generally considered insufficient to evoke any marked appreciation on the part of those it is intended to favor."

The commission does not favor an all-round increase to 5 per cent, but prefers that on certain articles the rebate be arbitrarily fixed, and then a general rebate for other articles not specifically mentioned. The question of discontinuing the rebates will no doubt be considered by the convention when it meets at Pretoria, as I am informed that the delegates to the convention are by no means unanimously in favor of including a preference clause for United Kingdom and reciprocating colonies in the next customs union.

THE FREIGHT RATE FACTOR.

Another question closely allied with customs rates, and one that heretofore has been used as a part of the taxing machinery of the country, is that of preferential railway freight rates. The railways of South Africa are owned and operated by the colonial governments, and the rate for intercolonial traffic is fixed by a commission representing all the owners, and part of the protection given to the production of certain articles of manufacture and to products of the coast colonies is afforded by a reduced freight rate obtained for these products consigned direct from the factory or place of production to destination, below the rate which obtains for the same articles when of foreign production or manufacture. This is carried to such an extent as to render any attempt to simplify the customs tariff quite a hopeless one. For illustration, at the present time the railway freight rate on imported tea to Johannesburg from Durban is

\$27.98 per ton, and the preferential rate on Natal tea is \$12.56; on imported sugar the rate is \$23.93, and on Natal sugar \$10.94 per ton. The railway for its transportation either receives an abnormal profit for the imported article or carries the Natal article at a great loss. It is the opinion of the commissioners that these preferential "rates should be abolished, and that an equivalent compensation be given such industries as would be injuriously affected by such abolition by means of increased customs duties at the port."

The foregoing contains but some of the points more important to American exporters contained in the Natal commission's report, and is valuable only as indicating the position recommended to be taken by Natal's representatives at the forthcoming customs conference. The recommendations may be entirely ignored, but when considered in connection with the reports of the commissions in other colonies should furnish a very good forecast of the convention's work.

BULGARIA.

EXPORT OF WHITE CLAY PROHIBITED.

By the decree of May 6-19, 1908, the exportation of white clay from Bulgaria is prohibited. The measure is intended for the benefit of the national pottery industry.

CHINA.

REGULATIONS GOVERNING CERTAIN IMPORTATIONS INTO CHEFOO.

Vice-Consul-General C. L. L. Williams transmits the following regulations adopted by the consular body of Chefoo on February 26, 1908, signed by American Consul-General John Fowler as senior consul, and approved by the diplomatic corps:

RULE 1. The following regulations may be enforced at such times and applied to such place or places in the same manner as is now done in the case of the sanitary regulations of the port of Chefoo, either independently or concurrently with the said regulations.

RULE 2. The importation of the following articles is prohibited: Rags, old clothes, old bedding, old cotton or wool, old cotton or woolen material of any kind, old skins or skin clothing, earth, mold, or sand.

RULE 3. The importation of the following articles is prohibited, except under the conditions set out below: (a) Furs, silks, hair, if accompanied by a certificate of disinfection giving marks for identification from the medical officer of the port of shipment; (b) fresh fruit, if in sound condition and free from adhering soil; (c) vegetables, if cleanly packed as cargo; (d) coffins containing corpses, if accompanied by a satisfactory certificate as to the cause of death, or that death occurred six months before importation; (e) old gunny bags and old papers, if accompanied by a certificate of disinfection and after disinfection again at the Chefoo sanitary station.

COLLECTION OF DUTY ON GOODS SHIPPED TO NEW PORTS IN MANCHURIA.

Chargé d'Affaires Henry P. Fletcher transmits from Peking a copy of the new so-called experimental regulations drawn up to facilitate trade between certain seaports and interior points. These regulations are as follows:

1. All foreign goods which have paid the regular import duty at Tientsin, Newchwang, Antung, or Dalny, as well as all native goods which have paid the coast-trade half duty (except such as may be sent into the interior, either under transit pass or by paying likin, as may still be done at the discretion of

the owner and under the old regulations), and which are intended for transshipment to any of the newly opened ports in Manchuria, will be given a special certificate exempting them from the payment of further duty, and this is irrespective of how such goods are to be transshipped to their destination. This special certificate will be stamped in accordance with regulations, and will be good for two months only.

Whenever such certificates are applied for, a signed declaration must be presented showing to what port the goods are consigned, and stating that in case evidence of the arrival of the goods in the port mentioned is not forthcoming within the two-month limit the applicant will be willing to forfeit three times the amount of the half duty. In order to avoid the trouble of preparing a guaranty on each occasion, however, it will be permissible to draw up a bond of a similar nature which will hold for a year, and to deposit the same in the custom-house. Such bond, if presented by a foreigner, must be sealed by a consular officer, and if presented by a Chinese must be sealed by the commissioner of customs. If a yearly bond is not furnished, then a signed declaration made for each shipment will suffice. The forms for these bonds and declarations shall be determined upon by the imperial maritime customs.

2. In all cases where goods are shipped to the newly-opened ports under special certificate, such goods must correspond exactly with the declaration.

In case of any discrepancy or of the shipment of any goods not on the declaration, not only will the custom-house where such declaration was made collect a fine amounting to three times the half duty levied upon the entire shipment, but the goods which have been shipped to the newly-opened port will there be confiscated.

COSTA RICA.

BANANA CONTRACTS AND EXPORT TAX.

Consul Chester Donaldson reports from Port Limon, under date of April 28, that the Costa Rican Congress, now convened in special session, has approved the bill placing an export tax on bananas of 1 cent, American gold, per bunch for "firsts" and one-half cent on "seconds" for the next ten years; also approving the contracts with the private planters, by which the United Fruit Company agrees to pay the planter 30 cents, American gold, for "firsts" and 15 cents for "seconds."

VENEZUELA.

CLASSIFICATION OF ROOFING TILES.

Consul E. H. Plumacher reports from Maracaibo that, according to the Venezuelan decree of April 8, roofing tiles prepared with asphalt and granite are dutiable, according to Class 2 of the tariff (1.93 cents per 2.2 pounds).

MEXICO.

REPEAL OF EXPORT DUTIES ON HENEQUEN.

Consul Wm. W. Canada, of Veracruz, transmits a copy of a law promulgated April 23, 1908, by which the export duty on henequen is repealed. The duty was at the rate of 50 cents Mexican per 100 kilos (about 25 cents American currency per 220 pounds). By proclamation of the President of the Mexican Republic the export duty on henequen exported since February 16, 1908, is to be refunded to the shippers.

PROPOSED INCREASE OF DUTIES.

The British Board of Trade Journal of May 28, 1908, contains a communication received by the British foreign office to the effect that

on May 21 a bill was submitted to the Mexican Congress by the minister of finance, proposing to raise the import duties on iron and steel and manufactures thereof, cement, lime, jute, and jute sacking. The measure, if passed during the present session, will take effect from August 16.

EGYPT.

COMMERCIAL AGREEMENT WITH ITALY.

Vice-Consul W. B. Cutting, jr., of Milan, Italy, reports that the commercial convention between Italy and Egypt, which is now before the Italian Senate for approval, contains as its principal clause the agreement by Egypt not to raise the duty on the chief products of Italian agriculture and industry above the level of 8 per cent. The few articles excepted from this undertaking are not such as enter largely into Italo-Egyptian commerce.

JAPAN.

AMENDMENTS TO THE CUSTOMS TARIFF.

Consul-General Henry B. Miller, of Yokohama, reports that the following new Japanese rates of duty will go into effect October 1, 1908:

Tariff No.	Article.	Unit of quantity.	Rate of duty.
112	Acetic acid.....	100 kin *	\$3.98
124 II	Calcium acetate.....	do	.204
124 III	Acetone.....	do	7.53

* One hundred kin=132.29 pounds.

The consul-general also transmits a translation of law No. 41, promulgated April 1, 1908, relating to mineral oils, and adds that it is reported that the Government will not put the law into effect until April 1, 1909. The law follows:

LAW NO. 41.

The import tariff is revised as follows:
No. 172, Mineral oils:

- Crude oil, not exceeding the following per centage of original liquid, distillable between 120° and 275° Centigrade by means of graduated distillation—

A. 20 per cent.....	per 10 American gallons..	\$0.085
B. 25 per cent.....	do	.105
C. 30 per cent.....	do	.125
D. 35 per cent.....	do	.145
E. 40 per cent.....	do	.165
F. Others.....	do	.180

Liquid exceeding 45 per cent is subject to an additional duty at the rate of 1 sen (half cent) per 10 American gallons for every additional 1 per cent.

- All others, at 15° Centigrade, specific gravity not exceeding—

A. 0.730.....	per cent ad valorem..	20
B. 0.875.....	per 10 American gallons..	\$0.478
C. All others.....	per 132.29 pounds..	\$0.612

The date on which this law shall take effect shall be promulgated by an imperial ordinance.

TURKEY.**ADMISSION OF MOTOR CARS.**

Consul-General Edward H. Ozmun, of Constantinople, transmits the following instructions, which have been issued to the Turkish custom-house authorities with regard to the admission of motor cars into that country:

Fifteen per cent of the invoice price will be added for packing and freight; if the freight is included in the invoice, only 10 per cent will be added. On this total a discount of 10 per cent will be allowed, and the duty will be levied on the remainder.

As regards cars in transit, they will be allowed six months to pass through the country. A lead seal will be attached by the customs authorities to a prominent part of the motor car, which until further orders, if unprovided with an invoice, will be estimated at a minimum of 25,000 or maximum of 40,000 piasters (from \$1,100 to \$1,760). On this amount 10 per cent will be taken for duty and only returned, less transit duty of 1 per cent, when the car is leaving the country, against presentation of the original receipt given by the customs authorities, which must contain the name of the owner of the car, the builder, the numbers, and any distinctive marks on the machine.

FRANCO-CANADIAN TREATY.**RECIPROCAL TRADE ADVANTAGES SECURED BY THE TWO COUNTRIES.**

Consul-General Frank H. Mason, writing from Paris under date of April 2, 1908, submits the following report on the reciprocity treaty recently concluded between France and Canada:

On September 19, 1907, there was concluded and signed at Paris by a commission representing respectively the Governments of France and Canada, a convention or treaty of reciprocity and commerce, which is destined to ameliorate and stimulate in an important degree the commercial relations between the two countries.

The convention, as negotiated and signed, was presented to the French Chamber of Deputies November 28, 1907, and was in due course approved and ratified by that body. It has also been approved by the lower House of Parliament of Canada, and is now before the respective Senates of both Governments for final ratification.* It may, in the course of such final discussion, undergo slight amendments as to minor details of the schedules, but no doubt is entertained that the convention will be ratified substantially in its present form within a few weeks and shortly thereafter will be carried into effect. It may be, therefore, of timely interest to note briefly the general character of this important treaty of commerce and how it will be likely to affect more or less directly certain classes of American exports to France.

GENERAL PROVISIONS OF THE TREATY.

The preamble which forms the statement of purposes (*exposé des motifs*), with which the convention was presented to the Chamber

* The treaty has since been approved by the Canadian Senate and is now awaiting ratification by the French Senate.—B. of M.

of Deputies, recites that the now existing regulations render numerous important articles of export and import between France and the Dominion of Canada subject to duties which unduly hamper and restrict reciprocal trade between the two countries, and that the pending treaty is therefore constructed for the express purpose of granting to a long list of Canadian products the advantage of the minimum tariff duties when imported by direct transit into France, and of conceding reciprocal ameliorations and advantages to a corresponding list of French products and manufactures when imported into Canada.

In effect, each Government grants to the other in respect to their direct reciprocal trade, in certain specified classes of merchandise, the advantages conceded by each to the most favored nation, and on the part of Canada these privileges are conceded not only to France but to Algeria and other French colonies, including the Protectorate of Indo-China.

NEW SCHEDULE OF DUTIES ON IMPORTS FROM CANADA.

The special interest which attaches to this negotiation from the American standpoint centers mainly in the long and important list of articles—products of the soil, mines, forest, and factories of Canada—which will henceforth have access to France under the minimum schedule of the French dual tariff, where they will compete under decisive advantages with similar products of the United States which are subject on importation into France to the maximum rates.

Schedule A of the treaty contains a list of more than 350 minimum rates of duty which are to apply to goods of Canadian origin.* They cover substantially not only the whole present field of Canadian exports to France, but include a number of articles not hitherto imported to any important extent from Canada, but which will assume new importance under the reduced rates of duty.

As a practical illustration of the normal effect of the treaty there are selected from the list a few articles of leading importance which are produced for export in both Canada and the United States.

EFFECT OF UNEQUAL IMPORT DUTIES.

The few selected articles will indicate sufficiently for the present purpose the disadvantageous position of many American imports to France in comparison with similar goods from Great Britain, Germany, Belgium, and other most favored European nations, and into which favored class Canada is about to enter. As a pertinent illustration of the effect of this unequal tariff rate, the item of agricultural machinery will serve. During the year 1907 there were sold in France approximately 16,000 binders, 55,000 mowers, and 10,000 reapers, a total of 81,000 large machines, besides a corresponding number of horse hayrakes, tedders, and other smaller farm implements. Of these it is calculated that about 12,000 binders, 38,000 mowers, and 8,000 reapers, in all 58,000 machines, were made in the United States, and about 2,900 binders, 7,000 mowers, and 1,700

* The schedule is published in a separate reprint, which can be obtained from the Bureau of Manufactures upon application.

reapers—in all 11,600 machines—were of Canadian and British origin, chiefly Canadian.

The difference between maximum and minimum French duties on agricultural machinery figures out, as has been stated in a previous report, to \$3.86 on a mower, \$4.82 on a reaper, \$8.20 on a binder, and \$1.93 on a hayrake. This disparity of import duties is sufficient, in addition to the high cost of steel, wood, and labor in the United States, to put the importers in France of American harvesting machinery at a disadvantage that will imperil their present splendid trade as soon as Germany, Great Britain, and henceforth Canada, can develop their production so as to cover the French market. Already the Canadian manufacturers are preparing to improve the larger opportunity that will be offered here, and it is reported that a harvesting machinery plant in Canada, which belongs to the American syndicate, will be enlarged and worked to its highest capacity for the export trade to France. The pending situation, if indefinitely prolonged, may result in transferring largely to Canadian territory this and several other industries which have been built up and have their native home in the United States.

MANUFACTURING QUESTIONS INVOLVED.

Equally suggestive is the situation of the trade in machine tools, and the important group of electrical motors, generators, materials, and fixtures of various types, particularly those of the smaller sizes. Reference to the table will show that the disparity between maximum and minimum duties on such articles increases rapidly as their weight diminishes.

The result of all this is that French companies, even when managed by American engineers, are compelled by differences in duties to buy such fixtures and machine tools of German or British manufacturers, when they would otherwise prefer those of American origin, to which they have hitherto been accustomed.

Similar difficulties are experienced in other lines of imported manufactures from the United States, and the first question which is asked by an experienced merchant in this country, who is asked to purchase or accept as agent the representation of American-made goods, is how they stand as regards import duty in comparison with similar articles from the neighboring countries which enjoy the treatment accorded most favored nations.

THE ADVANTAGES CONCEDED TO FRANCE.

France will secure by the terms of the pending treaty the admission of ninety-seven articles—almost exclusively manufactured goods—into Canada at the reduced rates prescribed (Schedule B of the treaty) by what is known as the “Intermediate Tariff,” which are the lowest that are applied to similar products coming from any foreign country. In addition to this, twelve articles of French origin will be admitted to Canada under a schedule of special rates which form Schedule C of the treaty. These special rates fix the duties on still wines at from 15 to 70 cents per gallon, according to percentage of alcohol contained; \$3.30 per dozen quarts on champagne; 15 per cent *ad valorem* on books; 25 per cent on drugs and medicines, 27½ per cent

on laces and embroideries, and 20 per cent on silk, velvets, and tissues, etc., all of which are important reductions from the general tariff schedule of Canada.

The conclusion of this convention furnishes another concrete object lesson illustrating the advantages of the modern European system which has been used so effectively by Germany and France. This system has for its basis a dual tariff, with a general or maximum schedule to be enforced against imports from countries which have no special treaty arrangements with them, and a minimum schedule ranging from 20 to 50 per cent, or even more, below the maximum, and which is conceded to imports from countries which, by treaty of reciprocity, secure the advantages granted to most favored nations.

Such a dual tariff system, as that of Germany, for instance, was prepared after long and careful study by a commission of experts representing not only the Government, but every industrial, agricultural, and commercial interest of the country. When the tariff law had been enacted, another board of experts was assigned to the task of making, under its provisions, reciprocal treaties of commerce with foreign countries. France is pursuing a similar policy, the keynote of which is to secure an equivalent advantage for every concession in import duties which may be granted to a foreign State.

FISHERIES.

MARINE PRODUCTS TRADE.

NETHERLANDS.

EXTENT OF THE HERRING CATCH—VALUE OF THE EXPORT TRADE.

The following information, giving full details of the Dutch herring fisheries, is furnished by Consular Agent A. C. Nelson, of Schiedam:

That fishing has been one of Holland's important means of subsistence is natural, the country being bounded on two sides by the North Sea, and containing within itself the Zuider Zee, both waters having been always noted for their abundance of fish. Besides, all the towns surrounding small harbors along the North Sea coast are indebted solely to fisheries for their existence, being cut off by the sand dunes from the fertile soil of the country, and their harbors only capable of accommodating small fishing vessels.

In spite of the long-established trade in Dutch pickled herring in the world's markets, the exports thereof to the United States are of comparatively recent date, for it is only within the last twenty years that the exports thereto have assumed any noteworthy proportions, but the United States to-day stands next to Germany as the largest market for Dutch herring. The export of pickled herring from Holland to the United States for the fiscal year 1902 amounted to 131,518 barrels, valued at \$736,504, while the export for the year 1907 amounted to 192,136 barrels, valued at \$960,683.

As this growing popularity of Dutch pickled herring among the population of the United States is undoubtedly due to the superiority of the product over that of any other country, it should be of interest to American fishermen and fish dealers to learn something about the methods followed by the Hollanders by which they have succeeded in leading the world in this respect.

CATCHING THE HERRING.

The herring is caught in the North Sea, between Holland, England, Iceland, Norway, and Denmark. In the beginning of the fishing season (the first part of June) the fishing boats go as far north as the sixty-first degree of latitude, in line with the Shetland Islands, where the best quality of herring is caught—the so-called "Northcatch." Gradually the herring moves southward, but even in the months of September and October successful fishing is done around the fifty-ninth degree. In November and the beginning of December the fishing is done along the English coast, near Lowestoft and Yarmouth, and even in the English Channel and along the coast of Holland, but the herring caught here is smaller and not so fat; this is called "Southcatch" and "Shoreherring."

Lerwick, on the Shetland Islands, has long been used as a landing place and wharf by the Dutch fishing fleet, and formerly the Dutch

fishing firms established regular steamship connection between this place and Holland during the fishing season, in order to bring the herring as quickly as possible on the market. Since 1892 it has, for some reason or other, been impossible for all the different firms to agree on that point, and only a few of the largest firms are now sending their own steamers there to fetch the first herring catch. The other shipowners let their vessels unload their first catch of herring at Lerwick in order to have it shipped from there to Holland on stray steamers via Leith or Harwich, as soon as possible. In old days it was not unusual to secure as high as \$30 per barrel for the first herring arriving in Holland, and even in 1906 from \$7 to \$11.34 per barrel was paid for 1,200 barrels of herring, which reached Holland via Leith in the middle of June. Shipowners therefore endeavor to get the first herring quickly on the market.

PICKLING THE FISH—QUALITIES.

The pickling of the herring on all Dutch fishing boats is done on board, as soon as the herring is on the deck. First, every herring is "gekaakt," which means that a triangular piece is cut out of the neck of the herring with a knife and the intestines removed. The herring is then packed with salt in barrels, and is ready for shipment, as the necessary brine or pickle is forming in the barrel. This method is claimed by the Dutch to be much superior to the methods used by other fishermen, who salt the herring whole on board and have them cleaned only after they are brought on shore and partly pickled.

All Dutch herring is divided into "Northcatch" and "Southcatch" or "Shoreherring," and as the Northcatch herring is the largest and fattest it furnishes the best qualities. It is claimed by the exporters that there is in the United States a market for the best qualities only, and that consequently only the best qualities are exported thereto.

The two best qualities of herring are: Prima full milters and prima full herring. As the name indicates the first sort consists exclusively of the fat male herring, while the second grade consists of both males and females.

THE HERRING FLEET.

In the year 1888 the fleet consisted of but 456 vessels, which had increased to 615 in 1898, and had reached the highest number on record in 1903, namely, 777, of which 45 were steamboats. In 1907 only 756 vessels took part in the work, owing to the low prices of fish in that year. The number of men engaged in the fisheries have averaged 10,000 during the last five years. According to published official statistics for 1906, the fishing fleet consisted of 733 ships, of which 39 were steamships. This fleet brought on shore 745,590 barrels of pickled herring (each barrel contains about 870 herring), valued at 11,856,372 florins (\$4,766,242).

As far as can be ascertained, the catch in 1907 amounted to 794,242 barrels, but its value was less than that of 1906, as the average price for the fish only reached \$4.80 per barrel, while the average price in 1906 was \$6.40. The reason for the low prices in 1907 was partly ascribed to the rich catch of the English and Scotch fisheries.

Besides, the Germans caught a great deal more last year than formerly, which fact had a depressing effect on the Dutch market, as Germany is the largest purchaser of Dutch herring. It is stated unofficially that there were stored in Holland on December 31, 1907, 142,403 barrels of herring, against 80,846 barrels on the same date in 1906.

SMOKED HERRING AND HERRING SALES.

The so-called "Bokking" are salted without first being "gekaakt," and smoked after they are brought on shore. This sort of herring is almost exclusively exported to Germany and Belgium. The quantity of smoked herring exported in 1906 was as follows, in pounds, gross weight: To Germany, 5,033,501; Belgium, 2,896,814; Greece, 36,409; Argentina, 24,470; Roumania, 11,243; Italy, 11,056; United States, 4,124.

The herring are disposed of at the so-called "afslag," auction sales, in the different fishing towns. The market price, however, is fixed according to the price reached at the Vlaardingen "afslag," as the sales held in other places are unimportant compared with those at that place. Those sales are not public, inasmuch as it is only the firms and shipowners having "seats" who are allowed to buy and sell.

The principals of the large export firms are, as a rule, directors in one or more ship-owning concerns, and it is seldom that a man who is a shipowner but not a merchant, appears at the auction sale as seller. Much herring is sold outside the "afslag," but the Vlaardingen auction price is in such cases also adhered to. Commissions on sales generally range from one-half to one per cent. The herring is bought without being seen, but with the right of the buyer reserved to examine the herring later on and, if he finds reason therefor, he can refuse to accept it. However, the shipowners and fishermen have found it to their advantage to keep up the quality, and it is seldom that sales occasion disagreements in this regard.

FISHING CREWS.

The crew on board a fishing boat generally consists of 16 men, including 1 machinist and 1 stoker on steam vessels, and from 13 to 15 men on sailing vessels. Every man on board has a certain percentage of the catch according to his rank.

The following weekly scale of pay on steam vessels is that which prevails at Vlaardingen and Maassluis, the percentage being additional to the weekly pay:

Description.	Weekly pay.	Percentage.	Description.	Weekly pay.	Percentage.
Captain	\$5. 25	2	Boy	\$1. 00	$\frac{1}{4}$
Mate	2. 60	$1\frac{1}{4}$	Do .....	. 65 $\frac{1}{4}$	$\frac{1}{4}$
Sailors	2. 60	1	Machinist	4. 70	1
Oldest ordinary	1. 95	$\frac{1}{2}$	Stoker	3. 75	1
Youngest ordinary	1. 50	$\frac{1}{8}$			

On sailing ships the captains and mates are paid in percentages, the first receiving 4 per cent, and the second $2\frac{1}{4}$ per cent. The crews receive percentages with weekly guaranties.

The percentage is figured from the market price after a deduction of 2 florins (80.4 cents) per barrel. As a rule each crew gets 3 to 4 barrels of herring to divide after each trip. The crew also gets half

of the profit of the mackerel caught during the trip. In hand money for a season's contract each sailor gets 25 florins (\$10) and the rest of the crew according to rank. Of course, board is furnished during the trip by the shipowners. Every one of the crew must, when signing the contract, show proof that he is insured against accidents during the trips. The families of perished fishermen are supported from relief funds. The relief fund in Scheveningen has a capital of \$80,000, and that at Vlaardingen \$40,000. In Vlaardingen \$4,646 was given in 1906 in support of 62 widows, 3 wives, 65 orphans, and 84 old sailors.

During the year 1906 26 fishermen perished, of whom 12 were married, leaving 12 widows, and 39 children. In 1905 77 fishermen perished and left 31 widows and 139 children.

EXPORTS OF PICKLED HERRING TO THE SEVERAL COUNTRIES.

The export of pickled herring to the United States begins in the latter part of July, and during August, September, and October it is in full operation. During November it gradually falls off, with comparatively few shipments in December, but with the beginning of the new year American orders again increase, and during January and February the shippers are busy.

The exports of pickled herring to the several countries in 1906, the last year for which statistics are available, were as follows:

Countries.	Quantity.	Countries.	Quantity.	Countries.	Quantity.
	<i>Pounds.</i>		<i>Pounds.</i>		<i>Pounds.</i>
United States.....	25,581,349	Denmark	1,147,596	Argentina.....	41,343
Germany:		England	552,556	Italy	25,947
Prussia	134,801,801	Roumania.....	510,452	All other countries .	14,192
Hamburg	12,981,275	Norway	462,249		
Mecklenburg.....	155,424	Russia	870,207	Total (613,603	
Lubeck.....	84,877	Africa	89,511	barrels)	202,912,457
Belgium.....	14,637,102	Dutch East Indies..	52,099		
Sweden	11,353,297	Turkey	51,180		

[A list of the leading Dutch exporters of herring accompanied the consular agent's report, and is on file in the Bureau of Manufactures.]

NORWAY.

RESULT OF THE WINTER'S FISHING FOR COD—CURRENT PRICES.

Consul-General Henry Bordewich, writing from Christiania under date of May 7, says that the Norwegian winter cod fisheries of 1908 were drawing to a close, with the following results:

On the Finmarken coast, far to the north, the work will probably be continued another month. The total catch for the season, up to and including May 4, has been 37,800,000 cod, converted into marketable products as follows: 13,500,000 air-dried stockfish (round); 23,400,000 salted common codfish; 49,100 hectoliters medicinal oil (1 hectoliter=26½ gallons); 17,209 hectoliters mechanical oil; 41,095 barrels salted roes.

The roes are disposed of in the French market where they are used in the sardine fisheries. The 1908 output of medicinal oil is more than 10,000 hectoliters larger than in any of the two preceding years. Ruling prices are: Steamed medicinal and new crude medicinal oil,

48 kroner, or \$12.86, per barrel of 30 gallons; mechanical oil (brown), 32.5 kroner, or \$8.70, per barrel.

The season's catch of stockfish and salted cod, which is still undergoing the process of preparation, has not as yet made its appearance in the market; hence no prices can be quoted.

The Finmarken fisheries may possibly swell the year's catch of winter cod to 40,000,000 to 41,000,000 fish. The Finmarken fisheries are very uncertain, and only a portion of the fishermen take part in them.

TOTAL CATCH OF COD—REDUCED EXPORTS OF HERRING.

Supplementing the consular report from Christiania on the Norwegian catch of codfish, Consul Felix S. S. Johnson writes as follows from Bergen under date of May 9:

The cod fishing for the week ended April 25 makes the end of the Lofoten season, with a quantity of 13,300,000, as against 18,700,000 and 18,600,000 in 1907 and 1906, respectively. The total catch of the season for the whole country up to April 25 amounts to 35,400,000, against 36,200,000 in 1907 and 36,100,000 in 1906 by that date. The corresponding figures were, for steam-refined medicinal oil, 47,969, 36,387, and 33,177 hectoliters (hectoliter=26½ gallons), and for raw livers for making oils 13,727, 12,720, and 10,060 hectoliters, respectively. All cod fisheries south of Finmarken may now be considered as over, while in Lofoten the official inspection was discontinued on April 25. In Finmarken the quantity up to the date named amounted to 2,100,000 of cods, against 3,200,000 last year. For last week the quantity was 800,000.

The aggregate quantity of spring herring may now be put down at 356,000 crans, mostly exported on ice, against 550,000 crans in 1907.

ASIATIC TURKEY.

METHODS OF PROCURING, PREPARATION, AND MARKETING SPONGES.

Consul Ernest L. Harris, writing from Smyrna, supplies the following particulars of the sponge-fishing industry in the eastern Mediterranean waters:

Sponges are a product of the Ægean Sea, especially about the islands of Rhodes, Syme, Kalymnos, and Cos, while Smyrna is usually the place of market. Sponges are also found near Sicily, on the north coast of Africa, and in the Red Sea. All these not only compete with each other in the world's markets, but they have some difficulty in holding their own against the sponges found among the West Indian Islands.

Sponge fishing is the most important industry of the inhabitants of the islands lying off the main coast of Asia Minor. Thousands of seamen every year are busy cleaning, drying, and bleaching sponges, a work which is not always of a pleasant nature, considering the number of lives lost in stormy seas and in diving.

When sponges are first torn from the sea bed, they are of a dark color and living. By tramping and pressing them with the feet a milky substance oozes out, whereupon the sponge dies. They are then immersed in the sea for a space of eight or ten hours. The

dark, skinny substance is then removed by scraping and gradually, through cleaning, drying, and bleaching, they take on the fine yellow color which characterizes many of them. It is said that the sponges taken from deep beds are better than those found in shallow water.

The price of sponges depends upon the quality, and they are sold either by the pound or by the piece. The unwashed qualities sell for \$3.50 to \$13 per oke (2.81 pounds). For the washed product, considering the loss in weight resulting from washing and trimming, which amounts to about 75 per cent, prices vary between \$13 and \$44 per oke. The prices of sponges sold per piece can not be estimated, except on examination by an expert.

CHINA.

GOVERNMENT INTEREST IN PROMOTING THE SEA FISHING INDUSTRY.

Consul Wilbur T. Gracey, of Tsingtau, China, transmits the following information regarding the fishing industry of China in general, and Shantung province in particular:

The acting governor of Shantung has recently sent a report to the ministry of agriculture and commerce, regarding the coast and sea fishing of China, in which he calls attention to the fact that everything secured from the sea finds a ready market in China, and even when such sea products are spoiled they are used for oils and fertilizers, both of which are much needed in the Empire. In order that the Chinese people should become better acquainted with the products of the ocean, and increase their skill in securing them, schools have been opened in ten places in China where teachers and scholars are engaged in work which is expected to increase their knowledge of this subject. By a combined tabulation of the entire coast country the governor estimates that the annual gain to China from the fisheries is something over \$8,000,000 United States currency, the exports annually amounting in value to about \$1,165,000.

The governor suggests that the industry be divided into three great districts, so that with the aid of modern methods, combined with skill and practice, the output may be increased. Chihli and Shantung provinces should form the first of these districts, Kiangsu and Chekiang provinces the second, and Fukien and Kwangtung the third. Each of these districts should maintain schools to familiarize the people with the growth and development of the various sea animals, kinds and use of various nets, preservation and preparation of the catch, etc., in order that the best methods and greatest care may be used in the preservation of the aquatic food supply. He suggests that exact charts should be prepared in order that the governors may be able to determine the limits of their authority and that the bounds and rights of each district can be clearly defined.

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

AUSTRIA.

EXTENSIVE EXHIBITS AT THE CITY OF PRAGUE.

Consul Joseph I. Brittain furnishes the following report concerning the Bohemian exposition, now being held in the city of Prague:

This exposition, to be open from May until November this year, will be something quite outside of the usual exposition representing the industries of a small territory. The Bohemians are an exceedingly industrious people and desire that their country should maintain the important commercial position it has acquired during the past fifty years. However, it is a country much neglected by American exporters. The opinion appears to prevail that the Bohemian financial and commercial institutions are not established on a substantial basis. This impression is a very erroneous one, and should not for a moment be entertained. Instead of American exporters contenting themselves with placing the sale of their wares in the hands of some foreign importing house, they should come to Prague and investigate for themselves.

Prague is not only one of the most beautiful cities in Europe, it is also one of the most important from a commercial standpoint. The Bohemians have gathered into Prague and its vicinity a large percentage of the varied industries of the entire country.

PROMINENCE OF THE CHAMBER OF COMMERCE.

The Prague chamber of commerce counts in its domain 110,000 self-supporting industries of a commercial nature, which pay over \$2,233,000 taxes, more than half the industrial taxes paid in Bohemia, and one-seventh of the entire commercial taxes paid in the Austrian Empire. The domain of the Prague chamber of commerce includes 25 per cent of the area of Bohemia and 35 per cent of the population. Its interests pay 45 per cent of the personal-income taxes and 50 per cent of the commercial taxes. The savings-banks deposits of the district make 35 per cent and the loan-banks deposits 45 per cent of the total deposits of the two class institutions in Bohemia.

The exposition will in consequence be of unusual interest, showing what is possible in a small territory peopled by industrious and enterprising inhabitants. There will be 2,300 exhibitors. The chamber of commerce, aside from administration buildings, has erected 21 large exposition halls, and 100 smaller halls have been built by separate exhibitors. The machine industry will count 100 exhibitors, one display consisting of two complete trains of day coaches, sleepers, and restaurant cars, constructed here after the best models.

The various industries of the same description are to be grouped together either in one building or in one part of the grounds. Thus

there will be one hall devoted to interior furnishings, separate compartments representing every description of room from a ballroom to a kitchen. The glass, glove, stonework, metal, chemical, iron, textile, and clothing industries will each be separated, and there will be a fine exhibit of peasant art work, handmade laces and embroidery. Naturally, the distilling and beer-brewing industries will be prominent. A great effort has been made to systematize every department of the exposition.

ITALY.

EXHIBIT AT MILAN OF APPLIANCES FOR SHIPPING GOODS.

Vice-Consul W. Bayard Cutting, jr., reports that the Milan consulate has received the draft programme of the first international exhibition of the new society, the Esposizione Industriale Permanente, of Milan. He describes their plans for a "packing" exposition as follows:

This society has been formed in imitation of such associations as the German Muster-Läger. Its first object is to organize a permanent exhibit of the chief products of Italian agriculture and manufactures. Foreigners, however, are to be allowed to exhibit, but in a different part of the exhibition building reserved exclusively for them.

In addition to this permanent exposition of all kinds of products, which is still no more than a project in its preliminary stages, the association plans to hold from time to time—twice a year if possible—temporary exhibitions, open to all nations on equal terms and devoted to some single industry or group of industries. The first of these temporary exhibitions is to take place in the spring of 1909, and will have as its subject packing apparatus and appliances. A light, solid, and cheap packing case, safely fastened, is an important adjunct to international trade. The Italians wish to learn what other nations have done and can do along these lines, and invite foreigners to join them in a practical study of the question.

CLASSES OF EXHIBITS.

The term "packing," says the programme received by the consulate, embraces a wide variety of products and raw materials, from a wooden crate coarsely bound with iron to a flask of thin glass, from a hatbox to a hogshead. There are also the various accessories, leaden seals, tin capsules, cords, covers, shavings, cotton, wool, labels, ribands, lace paper, sealing wax, etc.; everything, in fact, that is used in the process of packing. Special features of the exhibition will be the decorative packing cases class, where the potential utilization of the case by the purchaser will be accounted the principal merit, and the exhibit of packing methods for samples and the stock of commercial travelers.

American firms who may be interested in taking part in the packing exhibition are invited to correspond directly with Avv. Giuseppe Serralunga Langhi, Esposizione Industriale Permanente, 24 Corso Vittorio Emanuele, Milan, rather than with the consulate. The correspondence may be in English. The draft programme of the exhibition, with the probable division into classes, is forwarded [and may be secured from the Bureau of Manufactures].

During the exposition competitions in packing, with prizes, will be held. There will also be lectures on packing, packing appliances, and international exchanges.

This exhibition of packing appears a good opportunity for American firms to learn the methods of their various competitors in the Italian market, where not only native but foreign, and especially German, competition is of the keenest. They will also find an easy means of introducing into Italy a number of American devices for which it would be difficult otherwise to find a market.

GERMANY.

GERMAN SOCIETY ANNOUNCES AN INTERNATIONAL AFFAIR.

Count Hermann von Hatzfeldt-Wildenburg, counselor of the German Embassy in Washington, sends the following invitation for American participation in the forthcoming German hop and barley exposition:

The society entitled Experiment and Educational Institute for Brewing, of Berlin, intends to hold an international barley and hop exposition at Berlin, from October 10 to 18, to celebrate the twenty-fifth anniversary of its existence. The society, which is one of the largest technical and scientific brewing associations in the world, both on account of the number and the international distribution of its members, has also taken a special interest in promoting the culture of barley and hops during its twenty-five years' existence. In 1892 it founded the barley and hop culture station, under the supervision of Professor von Eckenbrecher, which, being maintained by the governments of the principal barley and hop producing countries, with the cooperation of influential rural-economic societies, has attained important results for German barley and hop culture by means of experiments systematically conducted on experiment grounds.

Since 1894 the society has been holding a barley and hop exposition at Berlin every year with the cooperation of the German Society for Rural Economy and the German Hop Raising Association. This exposition enables persons interested in the brewing business and barley and hop raisers to obtain a true idea of the result of the harvest. Foreign countries have hitherto also taken a lively interest in the expositions.

This year the barley and hop exposition will be made an international affair, and with it will be connected an international exposition of brewing machinery and brewery horses. The society hopes that the projected international exposition will benefit the commerce of countries participating in barley and hop culture and in the consumption of brewing materials, and that it will considerably increase the significance of these products in the world's commerce. It has also invited all interested parties in foreign countries to participate in the exposition and in the competition for prizes.

The board of managers of the exposition has suggested that a committee be organized for each nation whose farmers or brewers are specially interested in the exposition, for the purpose of soliciting exhibitors and transacting business with the exposition authorities. [Copies of a programme prepared by the society giving information

as to the composition and duties of such a committee, as well as announcements of the exposition plans and regulations governing same, may be secured from the Bureau of Manufactures.]

RUSSIA.

PERMANENT MERCANTILE EXPOSITION PLANNED AT WARSAW.

A business firm of Warsaw, Russia, writes to the Bureau of Manufactures that the Merchants' Association of that city "are contemplating to shortly establish, in a building specially provided for that purpose, a permanent exposition of articles and goods of all sorts manufactured beyond the limits of Russia, for the purpose of getting better acquainted with the foreign trade. The leading exporters and manufacturers of England, Austria, Hungary, Switzerland, Belgium, and France, as well as government institutions, like chambers of commerce of Austria and France, have already expressed their desire to promote the foregoing plan." The letter states further that one of the members of the firm writing is an American citizen, who desired to acquaint the business concerns of the United States with this opportunity.

EXTENSION OF TIME FOR CLOSING BUILDERS EXPOSITION.

In pursuance to a communication he has just received from the minister of foreign affairs at St. Petersburg, the chargé d'affaires ad interim of Russia at Washington advises that the exposition of products of the Building Art and Technical Industry, which was to continue at St. Petersburg from May 28 to August 28, shall remain opened until October 14, so as to afford greater facilities to foreigners desiring to take part therein.

SPAIN.

AGRICULTURAL EXPOSITION OF BASQUE PROVINCES.

Consul-General Richard Guenther, of Frankfort, advises that the German consul in Madrid reports to the Berlin Government that in September next an Agricultural Exposition of the Basque Provinces is to be held at Pamplona, Spain. The farmers of that country are progressive and favorably inclined toward using modern machinery and implements. Automobiles for carrying freight will also find much appreciation at this exposition as well as apparatus and chemicals for extirpating injurious insects. The German consul states that the exhibits will receive preferential transportation rates and will be exempt from paying customs duties if not sold.

BELGIUM.

INTERNATIONAL EXPOSITION AT BRUSSELS.

The minister of Belgium at Washington transmits copies of the programme, in the French language, of the International Exposition to be held at Brussels, Belgium, from April to November, 1910, under the patronage of the King of the Belgians. These programmes may be secured from the Bureau of Manufactures. The minister expresses his Government's earnest wishes that the Government of the United States will participate officially. He states that these programmes will be followed by English translations.

CHINA.

PERMANENT INDUSTRIAL EXHIBITION AT TIENTSIN.

Consul Wilbur T. Gracey, at Tsingtau, China, calls attention to the permanent industrial exhibition at Tientsin, in a report dated March 26, 1908:

Visitors at the Industrial Exhibition at the so-called public gardens in Hopei, Tientsin, which was opened last winter, were impressed with the credit which the exhibition gained not only among the Chinese, but also among the foreign population of the city, owing to the skillful arrangement, the diversity of the displays, and the practical manner in which the exhibition was carried out.

At the time of opening the exposition the large participation by foreigners, and of foreign products, was carefully considered, probably for the first time at a Chinese fair. It seems probable that this opportunity to exhibit the products of other countries will form an excellent method by which to advertise American goods.

REGULATIONS FOR THE DISPLAY OF GOODS.

The German consulate at Tientsin has recently informed the German merchants, through the newspapers of the Far East, of the method by which goods can be displayed.

First, all goods from foreign countries must be sent, charges prepaid, to the directors of the exhibition, and upon receipt will be displayed in the same manner as native goods. The displayed goods, however, are presented to the exhibition and can not be reclaimed.

Second, goods of all classes and sizes can be exhibited, the only prohibition being that goods of a dangerous nature, or which are unusable may be refused.

Third, all exhibits must be clearly marked with a description of their nature and use, and the name of the exhibitor, in both English and Chinese, and as well their place of manufacture, price, and materials used in the making.

Fourth, upon the goods being accepted for exhibition a receipt will be issued, and a letter of thanks written to the exhibitors.

Fifth, all goods accepted will be placed upon exhibition, but the manner of such display rests with the director of the exhibition, and can not be chosen by the exhibitor.

Sixth, the exhibitors must pay all transportation charges to the place of exhibition. On receipt of a written request, coolies will be sent to assist in the transportation of large displays or bulky goods, from the Tientsin wharves or station to the fair grounds.

Seventh, the following classes of goods are particularly mentioned as being considered worthy and advisable to exhibit: Pottery, glassware, gold and silverware, bamboo manufactures, paper, ivory ware, bone ware, all sorts and varieties of clocks and watches, hand power machines or wooden models of the same, clothes for Chinese and Europeans, toys, household utensils, paints and dyes, metals and minerals.

Eighth, the commission which has charge of the exhibition has the power to decide as to the time and duration of all exhibits. If at any time it appears necessary to exchange, sell or move goods to another place, the commission has the power to take such action as seems necessary without the consent of the exhibitor.

Ninth, the exhibition will not hold itself responsible for goods left in its charge, and will not be liable for accidental injury, loss, or destruction.

PROPOSED EXHIBITION AT NANKIN.

VICEROY PLANS A COMMERCIAL AND INDUSTRIAL DISPLAY.

Consul J. C. McNally sends the information that Viceroy Tuan Fang has under consideration the organization of a commercial and industrial exhibition at Nankin, the object of which is to demon-

strate to the world the variety and value of China's productions. The consul adds:

Plans are now being formulated to perfect an organization to select the location and present plans for the numerous buildings. The opening of the Shanghai-Nankin railway and the valuable river service will, it is thought, offer unusual facilities for passengers touching at Shanghai to witness at once the former capital of China, the viceregal city of the Liangkiang provinces with its interesting features, and the valuable products of China.

In anticipation of this important event, the viceroy has purchased several hundred acres of land encircled by a splendid driveway on which he proposes to build a public park, zoological gardens, and other interesting features.

MEXICO.

PREPARATION FOR A NATIONAL AFFAIR AT PUEBLA.

Advices from Puebla state that for the Mexican National Exposition to be held there in the spring of 1910 the San Juan ranch has been ceded to the board of management. The work of fencing the grounds and other initial work has been started. Lic. Gomez Haro is secretary.

MISCELLANEOUS.

MODERN PUBLIC UTILITIES.

TURKEY.

PRESENCE AND INFLUENCE OF FOREIGN POST-OFFICES.

In forwarding a list of the post-offices maintained by foreign governments in Turkey, Consul Ernest L. Harris, of Smyrna, comments as follows:

Foreign post-offices in Turkey owe their origin to the privilege formerly enjoyed by foreign merchants of sending their correspondence by the couriers of their respective missions. The right of the missions to these couriers was recognized in the treaties with Russia and Austria in the early part of the eighteenth century, and especially in the commercial treaty with Russia of 1783, which, together with the clause of the most favored nation, constitutes the right upon which foreign post-offices in Turkey are maintained.

In 1874 the Turkish Government protested for the first time against foreign interference in the postal service, but without success. In 1895 foreign postmen were arrested but released upon the energetic representations of the missions. In 1901 another effort was made by the Porte to forcibly abolish foreign post-offices; foreign mail bags were seized by the police upon the arrival at Constantinople of the European trains, but the powers protested so vigorously that it is highly probable no such measures will ever again be resorted to.

There are five foreign post-offices in Smyrna, given as follows, according to the dates of their establishment: Austrian, Russian, French, British, and German. They all operate under practically equal regulations, which are those of the postal union. The following is a list of the foreign post-offices in Turkey:

AUSTRIAN.—Constantinople (3 offices), La Canee, Rhodes, Trebizond, Dardanelles, Gallipoli, Samsoun, Tchesme, Janina, Mytilene, Chio, Ineboli, Durazzo, Prevesa, Vallona, Califfa, Candia, Cavalla, Rethymo, Porto-Lagos, Santi-Quaranti, Kerassund, Dedeagatch, Vathy, San Giovanni di Medua, Scutari of Albania; consular post-offices at Jaffa, Jerusalem, and Adrianople.

RUSSIAN.—Constantinople, Ineboli, Sinope, Samsoun, Tireboli, Ordou, Kerassund, Trebizond, Rizeh, Dardanelles, Smyrna, Chio, Alexandretta, Lattaquieh, Tripoli (Syria), Beirut, Jaffa, Mount Athos.

FRENCH.—Constantinople (3 offices), Salonica (2 offices), Smyrna, Beirut, La Canee, Jerusalem, Alexandretta, Cavalla, Dardanelles, Jaffa, Kerassund, Lattaquieh, Mersina, Porto-Lagos, Samsoun, Trebizond, Tripoli (Syria), Tripoli (Africa), Candia, La Canee, Rethymo, Rhodes, Vathy.

BRITISH.—Constantinople, Smyrna, Beirut, Salonica, Bagdad, Bassorah, Fao.

GERMAN.—Constantinople, Beirut, Jaffa, Jerusalem.

Foreign post-offices in Turkey have a direct influence on the commerce of their respective countries. The safe carriage of mails, the prompt delivery of printed matter, which in the Turkish posts is subjected to censorship, and the facility they offer in the transmission of samples, all tend to promote trade extension.

AMERICAN PARCELS-POST SYSTEM.

GREATLY NEEDED TO FACILITATE BUSINESS WITH THE LEVANT.

Consul-General G. Bie Ravndal, of Beirut, has previously called attention to the desirability of a parcels-post convention between Turkey and the United States. He now adds:

Merchants in the East do not buy from catalogues, for which reason commercial samples and the facilities for obtaining them are matters of paramount importance. At the present time the cheapest and quickest way of obtaining samples from the United States is by express to Bremen, and from there by mail to Beirut. Even at best, the proceeding is slow and expensive, requiring, of course, the intervention of an agent in Europe. In this respect the United States is placed at a distinct and vital disadvantage as compared with other nations interested in the markets of the Levant and the near East. Not only do we offer no adequate facilities for getting samples from the United States, but we send no commercial travelers to these parts.

In this way American exporters, furthermore, forfeit considerable business in mail orders. On this score, the following is quoted from a letter recently received from the treasurer of the American University in this city:

There are many articles and lines of goods which we now purchase in England and Germany which could be obtained from the United States were the parcels-post system adopted by the American Government. At present it is extremely difficult to get small orders of goods, such as hardware and novelties, articles of wearing apparel, jewelry, etc. The express companies' system is slow and expensive. I am sure it would, in the aggregate, increase certain lines of American trade enormously, and would add greatly to the convenience of American institutions and residents abroad.

KOREA.

OPERATIONS OF THE POSTAL AND TELEGRAPH SYSTEMS.

Consul-General Thomas Sammons, of Seoul, submits the following report on the operation of the telegraph and post-office system in Korea:

The telegraph and post-office business of Korea is increasing, although the number of telegrams sent abroad, not including those to Manchuria, shows a decrease following the abnormal activity during the period immediately after the war. The telegraph lines aggregate 6,772 miles. American telegraph instruments are not generally used.

During the fiscal year of 1906-7 the stamp receipts of post-offices amounted to \$32,840, and post and telegraph receipts to \$518,400. The ordinary mail matter dispatched during the year reached a total of 24,584,700 pieces, of which 3,827,837 were sent by Koreans and 20,756,863 by Japanese and other foreigners. The pieces of mail delivered numbered 30,356,346, of which 3,533,474 were addressed to Koreans and 26,822,872 to Japanese and other foreigners. The postal parcels dispatched amounted to 141,394, of which 6,300 were sent by Koreans and 135,094 by Japanese and other nationalities; those delivered amounted to 342,208, of which 8,880 were for Koreans and 333,328 for Japanese and other nationalities.

The post-offices throughout the country numbered 51. In addition to these offices there were 25 post and telegraph agencies, 117 post agencies, and 50 telegraph agencies, with a large number of various establishments on a smaller scale calculated to facilitate communication.

UNITED KINGDOM.

SALARIES OF POSTAL EMPLOYEES IN NOTTINGHAM.

In the readjustment of British postal salaries for the fiscal year beginning April 1 Consul Frank W. Mahin advises that Nottingham (population, 255,000) is rated as follows: Postmaster, \$3,650; assistant postmaster, may be paid from \$1,752 to \$2,186; two superintendents, from \$1,411 to \$1,703 each; nine assistants, from \$925 to \$1,363 each; twenty overseers, \$779 to \$876 each; inspector in charge, \$925 to \$1,168; inspector of mail carriers, \$754 to \$900; five assistants, \$584 to \$730. All the preceding are annual salaries, weekly wages being as follows: 110 sorting clerks and telegraphists, from \$7.50 to \$14 each; 280 mail carriers, not exceeding \$7.50 each; 20 rural carriers, not exceeding \$5.11 each. In the smaller cities of the Nottingham district postal employees of the same class receive slightly lower wages than in Nottingham.

ALCOHOLIC BEVERAGES.

ITALY.

WINE YIELD LAST YEAR COMPARED WITH THE LEADING COUNTRIES.

Consul James E. Dunning, of Milan, in a statement dated April 7, 1908, gives out the figures on the world's wine crop for last year as compiled by the Italian trade, thus:

Country.	Gallons.	Country.	Gallons.
United States.....	40,000,000	Corsica.....	8,654,800
Italy.....	1,495,126,400	Algeria.....	227,072,400
France.....	1,744,255,207	Tunis.....	7,920,000
Germany.....	50,160,000	Azores, Canaries, and Madeira..	3,960,000
Austria.....	92,400,000	Luxemburg.....	2,772,000
Hungary.....	81,400,000	Turkey ^a	39,600,000
Spain.....	464,640,000	Greece.....	32,000,000
Portugal.....	118,800,000	Bulgaria.....	50,000,000
Switzerland.....	23,760,000	Servia.....	10,000,000
Russia.....	68,640,000	Roumania.....	68,740,000
Mexico.....	500,000	Persia.....	450,000
Argentina.....	35,000,000	Peru.....	2,400,000
Chile.....	55,000,000	Uruguay.....	2,300,000
Brazil.....	8,000,000	Australia.....	7,000,000
Bolivia.....	650,000		
Cape Colony.....	5,000,000	Total.....	4,744,200,807

^a Including Cyprus.

The Italian crop for 1906 was 786,288,880 gallons.

GERMANY.

ACTUAL CONSUMPTION OF BEER PER CAPITA SMALLER THAN STATED.

In transmitting the following table showing the per capita consumption of beer in the several countries, as given in German official

publications, Consul William J. Pike, of Kehl, reports that the real consumption of beer in Germany is less than that stated, as the beer kept in store is included, and large breweries are keeping more beer in store than usual, on account of the decreased consumption:

Countries.	Per capita consumption.	Countries.	Per capita consumption.
	<i>Gallons.</i>		<i>Gallons.</i>
Belgium.....	63.29	United States.....	16.07
United Kingdom.....	35.64	Sweden.....	14.94
Germany.....	28.58	Austria-Hungary.....	11.88
Denmark.....	24.95	France.....	5.81
Switzerland.....	16.37		

BRITISH SOUTH AFRICA.

DECREASED ALE AND BEER IMPORTS INTO CAPE COLONY LAST YEAR.

Consul R. B. Mosher reports from Port Elizabeth that the imports of ale and beer into Cape Colony for the calendar year 1907 amounted to £31,000 (\$150,861), as against £71,000 (\$345,521) for 1906, a reduction of 56 per cent, due chiefly to the increased activity of the local brewers and the general movement for the further use of colonial articles. Of the ale, beer, and stout imported about 45 per cent comes from Germany, 40 per cent from the United Kingdom, and practically none from the United States. The duty is 48 cents per gallon, with a rebate of 3 cents per gallon on beers from the United Kingdom. [Dealers at Port Elizabeth who might handle American beer are named by the consul, and the list is filed with the Bureau of Manufactures.]

THE AFRICAN ELAND.

CAN BE DOMESTICATED AND TRAINED TO SERVE USEFUL PURPOSES.

The following information concerning the eland or Cape elk and the experiments proposed for its domestication is furnished by Edwin S. Cunningham, of Durban, Natal:

The eland, one of the largest species of antelopes, is indigenous to South Africa, and its flesh is considered to be the best of all venisons. It is fast disappearing from the settled districts, and any attempt to preserve this noble animal, either by domesticating or by placing it upon reserves, will be gladly welcomed by all lovers of animals. It is believed that as a domestic animal it can be raised at a profit, as it can be trained to serve a useful purpose. The director of experiment stations for Natal writes as follows on this subject:

An important natural asset, hitherto little appreciated and yet to be exploited, undoubtedly exists in the wild fauna of South Africa, and a far-reaching movement for the establishment of sanctuaries, or game reserves, in suitable localities throughout the continent has had foundation not only in sentiment, but also in a recognition of the potential utility of many classes of game now threatened with extinction. The prevalence of devastating stock diseases lends additional importance to the partial or complete immunity enjoyed by indigenous forms, and has led veterinarians and stock breeders to seek therein a means of obviating some portion of the resulting losses among domestic animals. When the mule has failed to show any marked degree of natural resistance to horse sickness, the zebroid, or cross between horse and zebra, is destined to play an important part in the Tropics.

In the eland again, the heaviest and most powerful of the African buck, is found a second type lending itself to domestication, and offering not only the advantage of virtual immunity from the commoner stock diseases, but also good beefing and working qualities. Little difficulty is experienced in the capture of this beast in open country, and it has been proved to thrive in captivity, rapidly becoming docile and tractable.

In the M'Chekwe district of Mashonaland two eland spans were for some time to be seen drawing wagons in the steadiest fashion, and healthy calves were born in captivity. The purchase of all available animals by a Berlin firm of live-stock dealers postponed for a time the completion of a most interesting experiment; but the eland will undoubtedly become an element in the farming system of the Colony.

The rapid multiplication of the buck under the partial protection afforded in the Giant's Castle Game Reserve, and the need for limiting the size of the herd, affords an opportunity for the conduct of a similar experiment in Natal, and steps are being taken to secure and train a limited number of animals during the coming winter. It will further be possible to definitely determine the degree of immunity enjoyed from, or resistance offered to, the various cattle diseases, with the ultimate object of their utilization in the work of preventive inoculation. It need hardly be added that the flesh of the eland has always been regarded as the best game meat in South Africa, that of the old males being loaded with fat, while the hide is much valued for leather.

HIGHWAYS IN GREAT BRITAIN.

INCREASING COST OF MAINTENANCE AND HOW TO MEET IT.

Consul Maxwell Blake, of Dunfermline, reports as follows concerning the new problems which confront municipalities and county councils throughout Great Britain, where the expenditure for road construction and maintenance is increasing at an alarming rate:

Traction engines, but more especially the various types of motor cars, are held to be largely responsible for the increased cost of road maintenance, against which the taxpayers are loudly protesting. Various ways of relieving the situation are suggested. The Motor-Car Union requests the Government to set aside in a general fund all money collected from the taxation of motor cars, out of which grants can be made to local authorities toward meeting the increased cost of construction and maintenance wherever the evidence justifies the conclusions that the damage complained of was the result of motor-car traffic. Others suggest that a graduated toll, according to distance traveled, be collected from motor cars, and still others advocate direct grants by the Government.

THE TAR MACADAM ROAD.

The very satisfactory means of obviating the dust nuisance on motor roads used for the past few years was a surface spray of tar, but as this costs about \$150 to \$250 per mile of road sprayed, and at best is but a temporary palliative treatment rather than a permanent or preserving one, it is being given up and an effort is being made to substitute tar macadam instead.

Tar macadam, it is claimed by some, is destined to solve the entire problem of road construction, and its practical results to date go a long way toward justifying this prophecy. For the best results of this method a coarse or hard porous stone must be used, well baked to extract all moisture before mixing with the tar preparation. When mixed it is laid about 5 inches thick upon a well-prepared foundation, and when sufficiently rolled it gives a smooth surface, a compact

body resisting dampness, frost, and hard wear, and as it does not require so much camber to shed water it is consequently a better road to travel over.

The cost of tar macadam, applied to a mile of road 20 feet wide, laid upon a rock bottom works out at about \$7,250. Such a piece of roadway should last, I am told, for at least twenty years, at an average cost of \$55 per mile per annum for maintenance. As a comparison with the cost of ordinary macadam it is unfortunately high, but it is said that in spite of this great difference in cost the use of the tar macadam works out the more economical of the two. The tar macadam costs about 55 cents per square yard.

NEW USE FOR SILICIUM.

GERMAN FOUNDRY INDUSTRY EFFECTS A CASTING IMPROVEMENT.

Vice-Consul W. Washington Brunswick, of Barmen, in stating that up to the present time no use has been found for the technical application of the silicic acid found in silicium, describes the development along these lines in Germany as follows:

Not taking into consideration the important carbons and metals found in combination, the silicium that is used in the glass and porcelain industries, the addition of silicium to bronzes for the augmentation of the hardness and firmness of the bronzes, is of the highest technical importance.

A recent use of silicium to obtain a pure copper cast and copper alligation was successful. The foundry trade well knows the difficulties of pure copper casting, which difficulty rests primarily on the fact that in melted copper, unavoidably, copper oxides are generated. As a reduction agent phosphor is generally used, but late experiments by English experts prove that additions with silicium copper (pure silicium can not be used) are preferable. They clean more effectively, harden and tighten better the copper structure and their alloys. The reason for this is that the unification of copper silicon has a higher heat effect than copper alone, and silicon impairs the oxidization.

Although ignition follows very easily when silicon copper is added to silicium there is, however, no danger of explosion. The addition is given with $1\frac{1}{2}$ to 100 pounds copper. The copper thus treated is particularly recommended for electric conducting wire. It is more easily drawn to wire than copper combined with phosphor. The wires are better for telegraphic and telephonic purposes because they do not corrode, possess a maximum conductive power, and owing to minimum thickness are lighter.

Additional uses for silicium copper are obtained in the process of molding and casting tin and brass bronzes. Smaller additions add to the removal of gases and the avoidance of the formation of oxides. The addition follows best shortly before the smelting pot with the melted copper is withdrawn from the furnace. An average analysis shows the following percentages: Silicium, 10.21; copper, 89.30; iron, 0.34, and aluminium, 0.15.

WOOD PAVEMENTS IN ENGLAND.**LEGAL DECISION DECLARING CREOSOTE A DESTRUCTIVE AGENT.**

In transmitting a report, of which the following abstract has been made, Consul J. Perry Worden, of Bristol, says that a recent decision in the courts in a suit for damages is regarded in England as a matter of considerable importance to car companies, and that it may be also of interest to those engaged in laying wood pavements in the United States:

A nurseryman in Bristol sued a tramway company to recover damages to his plants, alleged to have been caused by the fumes from creosote-prepared wooden blocks laid in 1906. The tramway company denied that the alleged damages were caused by the creosote-prepared blocks, which they said were prepared in the usual way, and furthermore the company claimed they were bound in pursuance of the statutory obligations of a tramway company to maintain and repair the road along which the tram line passed, etc.

When the case came for trial in the court of Bristol the following questions were given to the jury to decide: (1) Was the injury to the plants caused by the wood paving? (2) Was it reasonably necessary for the defendants to repave the road in the way they did and at the time they did it? (3) Was it absolutely necessary for the defendants to repave the road as they did it and when they did it?

On the findings of the jury the recorder entered judgment for the plaintiff at £40 (\$194.66), and this judgment was sustained by all the higher courts upon appeal.

EUROPEAN APPLE JUICE.**AMERICAN DRIED FRUIT NECESSARY FOR ITS MANUFACTURE.**

A leading European manufacturer of a nonalcoholic beverage from sterilized pure apple juice has furnished Consul-General Hugh Pitcairn, of Hamburg, with the following information regarding the difficulty of securing American dried apples of uniform quality:

My experience has taught me that the difficult problem in connection with this industry, namely, to obtain in Europe a good, uniform product from American apples, often fails for the reason that the apple shipments vary too largely in regard to quality. If the apples are dried and pressed properly, an excellent beverage can be made therefrom. As it is impossible for the European manufacturer to buy apples direct from the producer, but is dependent upon the jobbers or commission merchants who buy up the goods in various places from various producers, the quality, while often good, is frequently very poor. Without payment in advance the European manufacturers can not obtain their supply, and must, therefore, rely entirely upon the American jobbers with whom they have to deal, and, I am sorry to say, the users of my patent in Europe complain very much about the quality of American shipments received by them. The jobbers, however, are not wholly to blame, for the reason that the drying of apples in the United States is usually done on small farms or other agricultural establishments devoted to the raising of apples, and by the most primitive process.

It would under no circumstances be advisable, as it would not be remunerative, to manufacture such beverages from fresh fruit.

It being impossible to purchase in Europe large quantities of cheap, uniform fruit, if a company could be formed in the United States which would buy and furnish the supply of dried apples to the European manufacturers, it would accomplish great good in this direction.

[The names of five European factories making the apple juice referred to are listed at the Bureau of Manufactures.]

NEW WALL COVERING.

DAMP-PROOF INVENTION TO BE USED IN INDIA.

Consul-General William H. Michael, writing from Calcutta, gives the following account of a damp-resisting wall covering:

Much complaint has always been made by occupants of houses in Calcutta on account of damp walls, especially in the rainy season of the year. To remedy this it is proposed to use a new kind of damp-proof paper, made of "raw copper," and varying in thickness from 0.0012 of an inch to 0.006. It is said to be capable of being worked into all sorts of patterns. It is claimed to be insect-proof and damp-proof, and can go six or seven years without being cleaned. It is used in the same way as wall paper. Ordinary wall paper is of little use in the damp climate of Calcutta, and the new invention holds out many inducements.

ADVICE TO TRAVELING SALESMEN.

SHOULD CALL UPON AMERICAN CONSULAR OFFICERS ABROAD.

George H. Murphy, consul-general at large, writes, as a result of his experience, that it would be directly in the interest of trade extension if American exporters would instruct their salesmen visiting foreign countries to make a practice of calling upon consular officers for information, suggestions, advice, and other reasonable and proper assistance. Oftentimes consuls can give valuable aid in that way, and such calls would probably be of advantage in nearly all cases to traveling salesmen. The attention of manufacturers and exporters who employ salesmen in foreign countries is invited to this suggestion of Mr. Murphy.

CREMATION IN GERMANY.

GROWING USE OF THE METHOD FOR DISPOSITION OF THE DEAD.

Consul Thomas H. Norton reports from Chemnitz that Germany has now fifteen crematories, in as many cities, all in active use. There seems to be a growing disposition to make use of this method of disposing of the dead, as the number of cremations in 1908 shows an increase of 40 per cent over those for the same period of 1907. The total number of cremations during the four months, January-April, 1908, was 1,441, against 1,028 for the same period last year.

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COMMERCE.

BRAZIL.

PREFERENTIAL IMPORTS.

TRADE STATISTICS BEARING ON AMERICAN GOODS GIVEN A CONCESSION.

Consul-General George E. Anderson reports from Rio de Janeiro that advance figures of detailed returns of the imports of Brazil in 1907 indicate that the import of goods of American origin, which are favored by a preferential tariff granted by the Government of Brazil in return for the purchase of so great a share of Brazil's coffee and rubber crop admitted free of duty in the United States, increased materially during that year over the imports in 1906. The consul-general's details follow:

The increase is notable only in the case of flour, so far as actual volume of trade is concerned. The increase in imports of flour was material in volume and in percentage. The detailed figures of the imports for 1907 as compared with those of 1906, for all countries and for the United States (windmills and refrigerators, though given a preference, not being specified in the returns), are as follows:

Articles.	All countries.		United States.	
	1906.	1907.	1906.	1907.
Paints, etc.....	\$308,080	\$334,474	\$64,152	\$72,749
Flour.....	8,612,903	9,508,861	1,502,012	1,937,806
Pianos.....	256,703	287,080	13,144	12,875
Condensed milk.....	563,902	703,712	12,524	22,041
Scales.....	82,256	97,996	27,544	34,065
Watches.....	224,898	310,918	25,806	42,205
Clocks.....	114,283	144,090	57,459	67,202
Manufactures of rubber.....	583,122	502,725	39,898	56,913
Typewriters.....	72,445	120,859	61,096	105,465
Total.....	10,818,688	12,010,221	1,863,635	2,351,821

These returns show that the United States sold in 1907 goods of the above classes to the amount of \$487,686 more than it sold of the same goods in 1906, an increase of about 26.1 per cent; while Brazil in 1907 imported from all countries goods of such classes to the amount of \$1,191,533 more than it imported in 1906, an increase of only a little over 11 per cent.

SHARE OF TOTAL IMPORTS.

On the basis of total imports of all kinds in Brazil last year amounting to 644,937,744 milreis (milreis=30 cents) and the total imports from the United States amounting to 82,309,398 milreis, the propor-

tion of American imports in Brazil to all imports was about 12 per cent as compared with 11.46 per cent in 1907. The general rate of increase of all American imports in Brazil in 1907 as compared with 1906, a total of \$24,692,819 in 1907 as compared with \$18,310,260 in 1906, was about 34.8 per cent. The increase in the imports of preferential favored goods in 1907, therefore, was not up to the average increase in the imports of all American goods, though it evidently was much better than some.

The item of flour shows the most material increase of the items given, though not so in rate. In actual amount the increase in the imports of flour represents more than three-quarters of the whole. The nature of the effect of the preferential is indicated in the fact that while there has been this notable increase—an increase of about 24 per cent over the previous year's report—none of that increase has come in Rio de Janeiro or ports south of Maceio. In other words, the most populous portion of Brazil is still out of the reach of American flour. The preferential reduction simply acts as a reduction in freight rates which enables American shippers to reach ports with their products farther south than they would be able to reach without the preferential. The imported flour market is still dominated by Argentina millers. I do not see how it can be otherwise, for the Argentina millers, failing of a sufficient market elsewhere, must perforce place their product in Brazil as the nearest market. This is their practice and will probably continue as a matter of practical trade necessity.

PIANOS, MACHINERY, AND RUBBER GOODS.

There is a good market for American paint products in Brazil, and the fact that it is being cultivated now more than ever before is illustrated in the improved returns. There was a decrease in the imports of pianos from the United States. The piano makers of the United States still refuse to make pianos suitable for the Brazilian market, and so long as this is the case neither preferential tariff reductions nor anything else will enable them to secure the trade. The condensed milk trade has been aided by the tariff preferential. However, the returns of \$22,041 in 1907 still are small compared with the \$58,022 from the United States in 1905.

The increased imports of scales may have been due to ordinary conditions rather than to the preferential, and this also is true of imports of watches and clocks and typewriters, in each of these classes the increase in imports from the United States merely keeping pace with the increased imports generally. In typewriters the increase has resulted from the establishing of more satisfactory agency arrangements in behalf of American machines. The figures also represent a change in customs crediting, many American machines which formerly were accredited to Great Britain on the ground that they came from Great Britain, in spite of the fact that they were of American make, being now credited to the country of their manufacture.

In imports of manufactures of rubber, however, it should be noted that there was an increase of about 43 per cent in imports from the United States, while there was a decrease in the imports of such manufactures from all countries. Dealers here state that this turn in the trade has been due to reduced prices in the United States following the lower price of raw rubber and a lessened demand for rubber products in the American markets.

IMPORTS OF RIO DE JANEIRO.

The imports of the Rio de Janeiro district for 1907 were larger than those of 1906, in line with the general increase of imports in all Brazil. The share of the United States in this increase, however, was more than proportional and the American increase leads the list. Among the imports there was a decrease in the imports of American cotton manufactures, as compared with the year before, marking a continuance of the decline in American trade in this line for a number of years. The imports of cotton goods from other countries increased, however, the record for the port for the year being 39,158 packages, as compared with 37,834 in 1906, the value of last year's importations approaching \$6,500,000. There was a decrease of about 20 per cent in the imports of silk goods in general, but the United States has had little part in this trade, and the decrease affected American interests but slightly. The greatest increase in American goods imported was in the line of food products and building materials. The importations of goods of most interest to the American trade for 1906 and 1907 have been as follows:

Article.	1906.	1907.	Article.	1906.	1907.
Rice.....sacks..	227,232	31,106	Kerosene.....cases..	492,404	501,009
Vegetable oils.....cases..	21,491	31,540	Floor tiles.....	1,326,909	1,009,890
Codfish.....do.....	94,516	100,247	Swedish pine.....feet..	5,023,293	4,502,764
American lard.....tubs..	33,890	76,490	American pitch pine do....	18,896,466	31,510,129
Do.....cases..	6,704	10,435	American white pine do....	4,632,275	2,811,724
Pitch.....barrels..	62,385	23,735	American spruce.....do....	1,797,888	882,821
Coal.....tons..	741,535	745,537	Roofing tile.....	4,542,110	4,020,367
Tea.....kilos..	63,531	82,188	Bricks.....	1,555,620	1,071,000
Cement.....barrels..	733,314	719,809	Wheat.....sacks..	2,216,270	2,453,696
Wheat flour.....do.....	214,609	228,177			

The increase in the imports of lard practically measures the increase in the imports of lard from the United States—more than 100 per cent. The immense increase in the imports of American pitch pine also is notable. The increase in the imports of codfish is largely to be credited to the United States, although a large portion of the product comes from Canada by way of New York, where it is financed and to which port the dealers belong. The decreased imports of cement have come as a result of the completion of a large amount of the public improvements which have been going on in the past three years.

RIO DE JANEIRO EXPORTS.

THE UNITED STATES TAKES THE GREATEST SHARE OF SHIPMENTS.

Consul-General Anderson makes the following report on the export trade of Rio de Janeiro:

The exports of Rio de Janeiro in 1907 reflect the immense coffee crop in all Brazil for that year. There was exported a total of 3,857,210 bags of coffee, as compared with 3,495,213 bags the year before. About 42½ per cent went to the United States. The vast mass of all other exports of the district went to the United States, except in the case of sugar. The entries of sugar in the port in 1907 were 1,259,004 sacks, as compared with 1,138,134 sacks in 1906.

Shipments of manganese ore increased materially as a result of the comparative steadiness of exchange at a fairly low point. Monazite sand shipments showed comparatively little change from last year.

Shipments of glycerin and other animal products show a slight increase. The total exports from the port in 1907 were \$38,750,000, as compared with \$36,358,448 in 1906, the port furnishing substantially 15 per cent of the exports of all Brazil. The declared exports from Rio de Janeiro to the United States during the past two years are grouped as follows:

Articles.	1906.	1907.	Articles.	1906.	1907.
Coffee.....	\$18,413,447	\$12,725,762	Rubber.....	\$25,375	\$242
Precious stones.....	8,903	42,512	Miscellaneous.....	1,872	4,792
Manganese ore.....	311,142	532,044			
Plants and seeds.....	6,802	3,015	Total.....	18,767,540	13,311,367

DECLINE IN SHIPMENTS OF COFFEE AND RUBBER.

While the exports of coffee from this portion of Brazil, as well as from all Brazil, in 1907 were something like 50 per cent less than were those for 1906, the latter rather than the former year's figures come nearer the normal.

One notable fact to be considered is that the low price of rubber generally has shut off the shipments of mangabeira and manicoba rubber from this portion of Brazil. The increase in the shipments of manganese ore are in line with predictions of what would follow the steadying of exchange. The shipments of precious stones indicate in a measure the development of the diamond mines of northern Minas, although the figures given are not to be taken as measuring the output of the district or any considerable portion of it. There are still considerable quantities of stones handled out of the purview of any customs or other figures.

The general feeling in export circles in Rio de Janeiro at the close of 1907 was not one of satisfaction. The falling off of coffee shipments was due not only to the smaller crop, as indicated, but to the fact that New York consuming dealers had good stocks of the berry on hand and were unwilling to buy at even the low prices then obtaining. It will be well into the present year, if not longer, before exports from Brazil will take their ordinary course.

CONSUMPTION OF MATCHES.

UNIVERSAL HABIT OF SMOKING CREATES A BIG DEMAND.

Consul-General Anderson, in furnishing the following statistics on the Brazilian match trade, calls attention to possibilities for the sale of American smoking specialties:

The number of boxes of matches produced in the Federal District in 1907 was 202,041,400, of which 189,559,000 were wood and 12,482,400 wax matches. The stamp revenue was \$1,218,384, or about six-tenths of a cent per box. The output is used in the district itself. The match tax alone amounts to a little over \$1.50 for each man, woman, and child.

The explanation for this exceedingly large consumption of matches is in the fact that almost every male inhabitant of the district is a smoker, and most of them smoke cigarettes. "Camarades" on the mule-pack trains of the interior and the inhabitants of the most inaccessible portions of the country, even when deprived of everything in the way of civilized supplies, will almost invariably be supplied with matches for smoking.

FRENCH GUIANA.

IMPORTS OF SOUTH AMERICAN COLONY AND SHARE OF UNITED STATES.

Consular Clerk Milton B. Kirk, of Paris, has compiled from French official statistics just published the following commercial review of the colony of French Guiana:

The population of French Guiana, according to the census of 1901, was 32,908, of whom 2,059 were gold hunters in the woods. Direct and rapid means of communication with the interior are lacking; there being no railroads except a few miles in the penal settlement, which contains 6,290 persons. Postal communication is maintained twice a week with the principal towns. The telegraph is not extensive, centering mainly about Cayenne, the capital, which also has recently installed a telephone system. The ports of Cayenne and Saint-Laurent du Maroni are in direct communication with the seaport towns by means of small ships of 50 tons and less. These boats ply along the coast all the year round.

The low country stretching from the seacoast to the interior highlands is very sparsely cultivated, because periodical inundations of both salt and fresh water necessitates an expensive system of drainage. Although the soil of the interior plateau is much inferior, nearly all the products are cultivated there. All tropical flora and fauna are found in Guiana, and many European plants have been successfully acclimatized.

INTEREST IN MINING—TOTAL TRADE.

On account of the rush of gold hunters, agriculture has been almost abandoned, and many grains and fruits which were once grown in this colony are now imported. Little timber has been exploited. Concessions from 100 to 400 hectares (247 to 988 acres) are given for a period from two to five years, and are renewable almost indefinitely. A decree of March, 1881, regulates the prospecting and exploitation of the gold fields, and may be obtained at the colonial offices in Paris. Permits are granted to any one without regard to nationality. Gold, which was first discovered near the headwaters of the River Appronague, is to-day being exploited in the beds of all the principal rivers from the Oyapock to the Maroni.

Silver, copper, lead, iron, and mercury are found nearly everywhere. Topaz, chalcedony, garnets, amethysts, and jade have also been discovered. Expeditions are now being sent forth into the interior highlands prospecting for diamonds, which are said to exist.

The total commerce of French Guiana in 1906 reached the sum of \$4,834,177. The imports were \$2,807,910—an increase of \$600,111 over 1905. The exports were \$2,026,267—an increase of \$107,946. France furnished 70.8 per cent of the imports, and took 80.8 per cent of the exports; French colonies, 9 and 0.2 per cent, respectively, and other countries 20.2 and 19 per cent, respectively.

DIVISION OF IMPORTS.

The principal imports were in value: Live animals, \$226,961; food products (animal), \$260,918; flour, \$337,752; provisions, \$206,775; wine, beer, spirits, etc., \$448,213; textiles, \$373,139, and metal work, \$220,881.

France shipped to the colony during 1906 \$253,210 worth of animal products, \$764,010 of vegetable products, \$94,530 of mineral

products, and \$959,430 of manufactured products. British colonies furnished of these four groups \$272,750, \$163,730, \$4,590, and \$15,140 worth, respectively.

The principal imports from the United States in 1906 were as follows:

Articles.	Value.	Articles.	Value.
Mules	\$926	Oleaginous fruits and grains.....	\$979
Salt pork, ham, and bacon.....	14,376	Leaf tobacco.....	4,213
Meats, beef and other.....	23,230	Linseed and cotton-seed oils.....	10,895
Tinned meats	2,714	Building timber, pine and spruce	8,479
Tallow	15,898	Cement	446
Cheese	14,964	Illuminating oils	16,498
Dried, salted, and smoked fish.....	3,742	Soda biscuits, crackers, etc.....	2,594
Tinned fish.....	1,223	Textiles.....	64
Tinned lobster	1,543	Sewing machines.....	641
Wheaten flour.....	23,594	Machines and parts of.....	1,089
Oats	643	Kitchen utensils.....	2,946
Corn.....	3,620	Planed and polished woods.....	8,529
Dried vegetables	3,708		

Of the total imports of live animals only \$926 out of \$226,961 were imported from the United States. This consisted mainly of beef, the British colonies furnishing all but about \$21,000 worth and sending 3,867 cattle, 102 calves, 313 sheep, 1,582 pounds of pork, and nearly 12,000 head of poultry to this colony. Of animal products (packing-house products, hides, etc.), the United States sent about one-fourth and France one-half. From the United States was imported about \$6,500 of fish of all sorts. Only about one-tenth of the flour consumed was American, France and the British colonies doing the best trade.

The United States shipped over half the linseed and cotton-seed oil, no olive oil or resins, but nearly all the wood for construction purposes. Out of a total of nearly \$450,000, consisting of wine, beer, and alcoholic spirits, the United States sent only \$175 worth, France taking nearly all the trade, the British colonies sending about \$40,000 worth of beer.

From the United States came all but about \$4,000 of the illuminating oil; \$20 worth of bar iron out of a total of \$61,000 of all kinds of metals; \$13 worth of chemicals out of a total of \$19,000; and \$32 worth of paint and varnish out of a total of \$7,000. From France was imported the majority of soap, perfume, candles, etc.

There was imported from the United States \$50 worth of earthenware out of a total of \$15,000, and \$500 worth of glassware, mirrors, window glass, etc., out of \$22,000.

THE TEXTILE TRADE.

There was imported from the United States \$35 worth of cotton thread, \$1,081 of cordage, and \$206 worth of string out of a total of \$15,000, France sending the greater part. The total imports of textiles were divided as follows:

Hemp and flax.....	\$35,637	Cotton—Continued.	
Jute	3,119	Ribbon mixed with silk, etc....	\$4,923
Cotton:		Wool:	
Raw	15,158	Carpets	4,150
Bleached	43,128	Pieces	22,371
Colored	26,823	Hosiery, caps, underwear.....	8,694
Made with colored threads.....	22,994	Silk:	
Printed	35,962	Ribbons	2,158
Glazed	22,568	Braid	4,148
Hosiery, caps, underwear.....	18,920	Pieces	10,741
Dress goods	35,255	Hosiery, caps, underwear.....	7,713
Lace	10,101	Dress goods	7,943
Lamp wicks	1,229	Embroidery.....	2,990
Fish nets	3,150	Clothes	20,077
Oilcloth.....	3,208		

OTHER IMPORTS—GOLD EXPORTS PREDOMINATE.

Of \$75,275 leather goods imported \$260 was from the United States, and of \$220,881 works in metals, including sewing machines, machinery, tools, etc., \$6,771 worth. The United States does not enter into the importations of arms, powder, or ammunition, but shipped \$269 worth of furniture out of \$14,000 worth imported, though taking a more active part in wooden ware, shipping \$9,910 out of \$16,588 imported.

Out of \$3,000 worth of musical instruments and \$13,968 worth of straw goods imported, the United States did nothing, but sold \$251 worth of carriages against a total importation of \$3,670.

The chief export of this colony is gold dust, valued at \$1,867,285; \$27,799 of vegetable oils were exported, and some trade, valued at about \$35,000, was done in the reexports of French and other merchandise to the neighboring States. The United States received \$62 worth of fish, \$18 worth of brandy, and \$4 worth of liquors.

It can be easily seen by the statistics that the United States does not do the business that might be done, and there ought to be a great field for American goods on account of the colony's proximity with our country and Porto Rico.

CHILE.

LARGE INCREASE IN IMPORTS, BUT A DECREASE IN EXPORTS.

Consul Alfred A. Winslow, of Valparaiso, transmits a printed copy of the Chilean publication giving a résumé of the imports and exports of that country for the years 1906 and 1907, from which the following statements have been compiled:

The foreign trade of Chile was as follows in 1906 and 1907:

Description.	1906.	1907.	Decrease and increase.
Imports.....	\$86,759,639	\$107,193,877	+\$20,434,238
Exports.....	105,711,811	102,229,456	— 3,482,355
Total trade	192,471,450	209,423,333	+ 16,951,883

In the following tables the classifications and arrangement given in the Chilean official publication have been retained:

Description.	1906.	1907.	Description.	1906.	1907.
IMPORTS.			IMPORTS—continued.		
Animals and animal products:			Vegetable products—		
Live animals	\$2,076,302	\$3,006,657	Continued.		
Alimentary products.	1,155,626	1,826,350	Manufactures	\$316,658	\$437,770
Industrial products ..	1,222,782	1,835,711	Wood	1,787,695	2,630,663
Manufactures.....	476,629	708,053	Tobacco, and manu-		
All other articles.....	514,214	398,582	factures of.....	163,410	183,157
Total.....	5,445,553	7,775,393	All other articles	858,143	673,776
Vegetable products:			Total.....	12,571,109	11,747,556
Fruits, grain, rice,			Mineral products:		
coffee, tea, etc.	4,615,388	2,964,581	Precious metals and		
Alimentary prod-			stones, manufac-		
ucts, olive oil, su-			tures, specie. etc...	2,186,761	2,358,253
gar, flour, etc.....	4,206,140	4,114,786	Iron and steel, and		
Articles for indus-			their manufactures	10,029,525	12,797,033
tries (cork, gums,			Other metals than		
rosin, tar, etc.)....	623,675	742,814	iron and steel.....	1,270,231	1,550,736

Description.	1906.	1907.	Description.	1906.	1907.
IMPORTS—continued.			IMPORTS—continued.		
Mineral products—Con.			Machines, instruments, tools, and apparatus—Continued.		
Stones and earths	\$2,909,858	\$4,023,015	Agricultural.....	\$1,402,763	\$1,556,855
All other articles	757,225	637,175	Industrial (manufacturing, etc.)....	4,333,443	6,730,964
Total.....	17,153,600	21,366,212	Locomotion (locomotives and rolling stock chiefly)..	2,770,984	4,113,160
Textile materials and manufactures:			All other articles....	358,910	367,135
Straw, palm, cane, and jute.....	2,984,012	2,654,285	Total.....	14,646,611	17,469,249
Cotton manufactures.	10,046,815	13,262,180	Arms, explosives, and munitions.....	589,793	1,236,192
Linen manufactures.	275,518	360,910	Miscellaneous articles...	492,804	516,284
Woolen goods.....	4,935,300	6,833,050			
Silk manufactures...	1,241,973	1,240,131	RESUME.		
All other articles...	748,634	612,617	Animals and animal products.....	5,445,553	7,775,393
Total.....	2,232,252	24,968,173	Vegetable products.....	12,571,109	11,747,556
Industrial oils, combustibles, etc.:			Mineral products.....	17,153,600	21,366,212
Oils.....	656,954	869,636	Textile materials and manufactures.....	20,232,252	24,963,173
Bitumen.....	86,683	116,171	Industrial oils and combustibles.....	10,592,480	15,073,527
Combustibles (coal and petroleum chiefly).....	9,338,525	13,327,746	Paper and paper manufactures.....	1,996,606	2,553,707
Paints and colors....	441,534	606,197	Liquors, mineral waters, etc.....	1,456,644	2,345,207
All other articles....	69,784	153,777	Perfumery, medicines, and chemical products.	1,582,231	2,147,377
Total.....	10,592,480	15,073,527	Machines, instruments, tools, and apparatus...	14,646,611	17,469,249
Paper and paper manufactures.....	1,996,606	2,553,707	Arms, explosives, and munitions.....	589,793	1,236,192
Liquors, mineral waters, etc.....	1,456,644	2,345,207	Miscellaneous articles...	492,804	516,284
Perfumery, medicines, and chemical products:			Total imports.....	86,759,683	107,193,877
Perfumery.....	186,372	280,620			
Medicines and other pharmaceutical products.....	717,513	871,069	EXPORTS.		
Chemical products...	536,537	842,613	Animal products.....	7,278,337	5,959,670
All other articles....	141,809	153,075	Vegetable products.....	3,429,212	4,859,088
Total.....	1,582,231	2,147,377	Mineral products.....	92,248,658	88,341,039
Machines, instruments, tools, and apparatus:			Wines and liquors.....	72,039	47,223
Scientific, musical, arts, etc.....	1,050,570	1,049,913	All other articles.....	2,688,565	3,022,486
Mining machines and apparatus.....	4,729,941	3,651,192	Total exports.....	105,711,811	102,229,456

PARAGUAY.

MARKET FOR PAINTS, OILS, AND VARNISHES—KALSOMINE IS POPULAR.

Consul Edward J. Norton makes the following report from Asuncion on the paint, oil, and varnish trade of Paraguay:

Of all the hundreds of houses, residences, and stores in Asuncion, there is not one, to my knowledge, built of wood. In this respect Asuncion is not unlike the majority of cities in Latin America, although in the coast towns of central and northern South America wooden houses are numerous. Rough, heavy native brick, irregular in size and shape, is the material used for construction purposes, although concrete is slowly making headway. Rough-hewn timbers with a layer of split palms, which are covered with curved tiling, form the roofs. The floors are of brick or tile.

The brick walls of all buildings are covered with a rough plaster called "revoque," and this is painted. Oil paints are not in demand

to any extent except for doors, sash, window bars, etc., as the exterior painting and the interior decoration of houses and stores is generally of kalsomine. Interior walls are kalsomined and finished by stencil work in fancy designs.

The ceilings in most houses are composed of painted wooden frames on which a cheap cotton drill is tacked, and kalsomined and stenciled to harmonize with the walls. There is a steady demand for kalsomine or cold-water paint. For this market preparations of this kind should be available in all colors, as the streets of Asuncion are bright with residences painted in pinks, blues, and greens, and the store fronts are of different shades of light colors. The most popular-sized packages of cold-water paints would be of 5-pound packages and 25 and 50 pound kegs.

Limited stocks of ready-mixed paints in quart, 2-quart, gallon, and 5-gallon tins are carried by local dealers. These goods come principally from England and Germany. Some American enamel paints and varnish stains, varnishes, fillers, and driers are also handled by local merchants, and are recommended as the best.

The sales of American paints could be increased, as the American varnishes, enamels, etc., have the best reputation in this market. A limited line of coach and carriage colors and carriage varnishes would find a market here, as well as special paints for steamboats. Asuncion is a central point for a number of river lines, and considerable repair and refitting work is carried on. [The consul forwards a list of the importers of paints in Paraguay.]

NICARAGUA.

DECREE GOVERNING THE IMPORT AND SALE OF PATENT MEDICINES.

The following information concerning a recent decree regulating the conditions under which patent medicines can be imported into and offered for sale in Nicaragua is furnished by Consul José de Olivares, of Managua:

A special executive order has been issued, entitled "A decree regulating patent medicines."

The decree is, however, more comprehensive than its title and comparative briefness would imply, and is not only calculated to remedy the existing conditions in connection with the importation, preparation, and dispensing of patent medicines, but aims to reform deficiencies in the prescription departments of many drug stores throughout the country.

A considerable number of the proprietors of drug stores are leading physicians, but the business transacted by a large majority of them is too limited to warrant the employment of foreign apothecaries, and there are no pharmaceutical schools in the country.

While the provisions of this law should tend to protect foreign patent medicines against adulteration, it is believed the requirement that all such remedies must be labeled with their formulas in full will prove an obstacle to their importation.

[A copy of the decree is filed for reference with the Bureau of Manufactures.]

FRANCE.

TRADE IN ACETONE.

IMPORTS AND EXPORTS—INDUSTRIAL USE OF THE CHEMICAL.

Responding to an American inquiry Consul-General Robert P. Skinner, of Marseille, gives the following information as to the French trade in acetone:

Acetone, like acetate of lime, is classified for dutiable purposes in France as "an undenominated chemical product other than such as have an alcohol base," and as such is taxed 5 per cent ad valorem. As this tariff is the same under maximum and minimum schedules, American exporters are under no disadvantage in this respect. If, however, American acetone should be exported to France via some other European country, it would have to support a surtax of 69 cents per 220 pounds. It is impossible to furnish exact figures as to imports and exports of this article which, in official statistical tables, is included among "undenominated chemical products, without alcohol base, and subject to an ad valorem duty." The figures relating to these articles supply some notion of the importance of the trade in acetone, and are as follows:

	1907.	1906.	1905.
	Tons.	Tons.	Tons.
Imports.....	22,027	17,353	16,219
Exports.....	15,073	14,302	12,576

Buyers of large quantities of acetone, aside from the French Government, are few and seldom take up more than half a ton at a time. Its principal applications are in the manufacture of smokeless powder, the denaturation of alcohol, and the production of chloroform, iodoform, and celluloid. The price varies with the price of acetate of lime. In 1907 quotations ranged from \$35.70 to \$36.67 per 220 pounds, at 98 per cent of purity. This year one manufacturer quotes \$33.77 and another \$34.74—this, however, for 99 per cent acetone. These are delivered terms anywhere in France.

COMPETITION OF FORMIC ACID.

In a general way, the market for the entire list of pyroligneous products, which has been firm for two years, now seems considerably weaker, and the industry is menaced by the competition of formic acid, which tends to reduce the use of acetate of lime, and to that extent affects the price of the raw material from which acetone is produced and also by proposed changes in the method of denaturing alcohol.

One of the chief manufacturers of pyroligneous products writes me: "It is certain that the suppression of methyl alcohol as an alcohol denaturant would entrain the ruin of the mills for the carbonization of wood, as the product would drop at least 50 per cent in price." The same correspondent declares that while formic acid menaces acetic acid, and therefore acetate of lime, in the dyeing trade, "it is still in the experimental period." An equally important producer is of the opinion that formic acid must already be regarded as a formidable competitor. However, there will always remain a demand for a certain quantity of acetate of lime, "unless some one invents some new means of synthesis."

Purchases of acetone for the French Government are made after advertising for bids, and for this purpose the bidders must be French citizens. [A Marseille commission agent who is prepared to go into this matter is named by the consul.]

ACETATE OF LIME.

SUPERSEDED IN MANY FRENCH INDUSTRIES BY FORMIC ACID.

In answer to another inquiry from the United States, Consul-General Skinner writes as follows relative to the decline in the imports into France of acetate of lime, and the reason therefor:

There are about 25 plants in France where wood is carbonized in retorts, with recuperation of acetates and methyl alcohol. This number might be increased, as there are numerous wooded areas where there are no plants, but the chief producers of French acetate of lime deem the creation of new establishments unlikely for the present at least; nor is it any more likely that existing plants will augment their production, for the reason that no market would be found in this country for the output.

Importations of acetate of lime have decreased to commercial zero, and the manufacturers thereof fear that before long they will be forced to seek a foreign market or reduce the scale of their operations. This situation is the consequence of the recent invention of a new material which, within two years, has become a severe competitor of acetic acid (which is derived from acetate of lime), and which has replaced it in many industries. This new product is formic acid, and is manufactured from coke.

It has come within the knowledge of French manufacturers of acetate of lime that important plants for its production have been established recently in Brazil, Japan, Australia, Chile, Canada, and Hungary, but unless their owners are prepared to find an outlet for their product at home, their prospects for commercial success would appear to be doubtful.

The second product of wood carbonization, methyl alcohol, is imported into France in fair quantities, for the purpose of denaturing ethyl alcohol, but this business, too, seems to be somewhat precarious, and should the proposed reduction by the State of the amount to be used be authorized it would tend to terminate importations, as the domestic production of methyl alcohol would be sufficient to cover the reduced requirements. On April 1, gray acetate of lime was quoted in this country at 47.50 francs per 100 kilos (\$9.17 per 220 pounds). A list of the chief manufacturing concerns is forwarded. [List filed in the Bureau of Manufactures.]

DEMAND FOR RUBBER TIRES.

HIGH DUTIES PREVENT THE IMPORTATION OF AMERICAN MAKES.

The following information concerning the rubber tires in demand in France and why the American tire finds only an insignificant consumption in the Republic is furnished by Consul-General Skinner:

A very serious obstacle to the creation of a demand in France for rubber tires of American manufacture is the application of a duty

upon such tires of 90 francs per 100 kilos (\$17.37 per 220 pounds), while tires from other countries are dutiable at the rate of only 70 francs per 100 kilos (\$13.51 per 220 pounds). The consequence is that importations from the United States have been unimportant. It is impossible to furnish any reliable statistics regarding the trade, as rubber tires are comprised with a long list of other articles in rubber.

One well-known American house, appreciative of the difficulties of disposing of American tires in France, has passed over to a French firm its patent rights, with the result that, as in several other lines of industry, "American" solid rubber tires are being very extensively sold in this country, although there is nothing American about them except the type.

The general demand is said to be for a solid tire through which run two parallel steel wires. A pair of tires for wheels 39.37 inches in circumference commands from \$24.30 to \$35.90, according to the thickness of the round rubber, and flat tires for wheels of the same size run up to \$96.50.

TARIFF DISCRIMINATIONS KEEP OUT AMERICAN TIRES.

Very few imported automobile tires are sold in this market for the same reasons as in the preceding case. Prices are steadily descending, in sympathy with the cost of raw rubber. It is said that \$160,000 worth of these tires were sold last year in this city. The tires offered for sale are being improved annually, not in respect to the rubber portions, but as regards the canvas linings.

It is calculated that a smooth-surface tire should run between 5,000 and 6,000 kilometers (3,106 and 3,728 miles), while the anti-skidding tires are hardly good for more than 4,000 kilometers (2,485 miles) on French roads. It is comparatively seldom that one sees a general service automobile in cities without at least one nail-shod tire. There is quite a variety of these devices, some being nail-shod leather envelopes, others metal nails on the rubber envelopes, and still others rubber nails which are a part of the rubber envelope itself. Eventually the nail wears through the canvas linings, and then repairs are difficult. The use of chains woven about smooth tires, such as are seen in New York, would not be permitted here under any circumstances. As it is the nailed tires are doing incalculable damage to the roads.

Local dealers, not being manufacturers, do not know the specific gravity of the rubber employed. All the manufacturers claim to use nothing but Para rubber. The best dry African rubber, which comes from French Guinea, weighs 1,102.3 pounds per cubic meter (35.314 cubic feet).

[A list of the Marseille dealers with whom correspondence might be undertaken with a view to securing the sale of American tires is on file in the Bureau of Manufactures.]

MARKET FOR BARRELS.

POSSIBLE OPENING FOR THE SALE OF AMERICAN METALLIC ONES.

In reply to a communication from an American manufacturer of metal barrels, Consul-General Skinner writes as follows:

If American firms can produce a metal barrel at a cost of \$1 there would be little doubt of finding a market in this country. The need

of barrels, both cheap cement barrels and oil containers, is very great in this city, and the high cost of substantial oak barrels for the oil trade has already created a considerable sale for large and strong metal cylinders. Although these cylinders cost from \$4 upward, their indestructibility renders their use economical in certain cases. Upon this point the following is an expression of opinion from a leading oil manufacturing firm of this city:

Since 1903 we have used iron cylinders for deliveries of oil to local soap manufacturers. We realize a serious economy, as repairs are not necessary after every delivery, as in the case of wooden barrels. On the other hand, we deliver our edible oil in wooden barrels, because they are less likely to be broken in being loaded and unloaded from the cars, and because the majority of our buyers prefer the old-fashioned barrel.

Buyers here prefer the wooden barrel for fine oils, because it does not seem possible, so they think, to clean metal containers in a satisfactory manner, their repeated use being certain to give a rancid taste to the oil. [An illustration of the type of metal barrel used in Marseille is on file in the Bureau of Manufactures.]

BROOM-ROOT TRADE.

IMPORTS OF VARIOUS KINDS OF FIBERS AT THE PORT OF HAVRE.

In response to a St. Louis inquiry, Consul A. Gaulin writes from Havre as follows in regard to the French imports there of broom root and other fibers:

The article "raiz zacaton" is a fibrous root which grows in Mexico and other countries and is used for making brushes and brooms. It is commercially known as broom root, and is imported in large quantities at this port. The average wholesale price for the Mexican broom root in Havre during the year 1907 was 165 francs per 100 kilos (\$31.85 per 220.46 pounds). The highest price was 195 francs (\$37.64) and the lowest 150 francs (\$28.95) per 100 kilos. These quotations were for good average quality broom root, clean, of the proper color, and flexible.

In the statistics kept and published by the French customs authorities the importations of broom root are not given separately. The article is classified with cocoanut, piassava, and iztle fibers. So important is the trade in broom root, however, that it is safe to say that the article forms the better part of the following figures, showing importations of broom root, cocoa, piassava, and iztle fibers at the port of Havre, France, in 1907:

Country of origin.	Pounds.	Country of origin.	Pounds.	Country of origin.	Pounds.
Germany.....	458,121	Egypt.....	14,800	Brazil.....	82,282
England.....	141,827	British India.....	1,360,805	Chile.....	12,980
Holland.....	11,411	China.....	300,960	French Africa.....	6,710
Belgium.....	134,950	United States.....	1,214,930	Cochin-China.....	4,540
Switzerland.....	1,053	Mexico.....	3,566,539		
Austria.....	1,108	Colombia.....	8,905	Total.....	7,321,421

There is no customs duty on broom root imported into France unless it is shipped via another European port or country, in which case the duty is 3.6 francs per 100 kilos (\$0.69½ per 220.46 pounds). [A list of the principal importers of broom root and other fibers at Havre may be secured from the Bureau of Manufactures.]

GERMANY.**COOPERATIVE PURCHASING.****PROSPEROUS BUSINESS LAST YEAR OF A HAMBURG ASSOCIATION.**

Consul-General Richard Guenther reports from Frankfort that the *Grosseinkaufsgesellschaft deutscher Konsumvereine G. m. b. H.* (Wholesale Purchasing Company for German Cooperative Associations, Limited) at Hamburg, Germany, has published its report on the company's business during 1907. The total sales amounted to \$14,254,000, an increase of 28.7 per cent over the business of 1906. The capital of the concern (which only supplies its affiliated cooperative retail stores) is \$239,000. The net profits from last year's dealings amounted to \$120,000. The report states that the prospects for 1908 are not auspicious, because the present economic crisis will cause lack of employment for factory operatives and other working classes.

COMMERCIAL COURTS.**GOVERNMENT PETITIONED TO CREATE A SUPREME TRIBUNAL.**

Consul-General Guenther further advises that the commercial court at Frankfort has petitioned the National House of Representatives of Germany and the chancellor of the Empire to create a commercial supreme court. In Prussia and some of the other States of the German confederation "*Handelsgerichte*" (commercial courts) for the trial of mercantile cases have existed for many years past. These courts are composed of a law judge and two lay judges who are selected from leading men in trade, manufacture, and finance.

SWITZERLAND.**LARGE DECREASE IN AMERICAN EXPORTS AND DEPRESSING EFFECTS.**

Consul-General S. C. McFarland, of St. Gall, furnishes the following information, under date of May 11, concerning the industrial depression in Switzerland, which has resulted from the decreased exports to the United States:

The full effects of the financial disturbance in the United States upon Swiss industrial conditions and as affecting commercial relations with the United States are now apparent. A table comparing exports to the United States from the several consular districts for the first four months of the years 1907 and 1908 is attached. The figures for the Lucerne district show a slight increase, for the reason that in 1907 the Aarau agency was abolished, the figures from such date being included with those from Lucerne. Upon the whole a decrease of some 30 per cent is shown, but the most depressing effect has been upon St. Gall embroideries, showing in March (1908) a decrease of about 52 per cent and in April of about 54 per cent. During the months of January and February old business on hand kept the figures up somewhat, and it is generally believed in trade circles that the lowest point has now been touched and that gradual improvement will follow, although May business, so far, does not show a betterment.

The effects locally have been severe, working hours in the principal factories having been reduced by general agreement, while small concerns and house labor are practically idle. Many thousands of employees in the business proper have been thrown out of employment, and in the machinery and allied industries the results have been equally severe. Conditions are affecting rents and wages and creating an unusual situation in the general market for labor of all kinds, whether common, factory, or house.

The following statement shows the exports from Switzerland to the United States during the first four months of 1907 and 1908:

Declared at—	First four months of—		Declared at—	First four months of—	
	1907.	1908.		1907.	1908.
Basel.....	\$1,070,839	\$602,252	St. Gall.....	\$5,698,159	\$3,822,420
Berne.....	973,792	753,053	Zurich.....	1,336,085	1,060,175
Geneva.....	365,012	247,071			
Lucerne.....	186,631	209,940	Total.....	10,236,518	6,694,911

RUSSIA.

AMERICAN GOODS AT ODESSA SUPPLIED THROUGH GERMAN AGENTS.

Consul John H. Grout reports that at the present time, with the exception of agricultural machinery and implements sent out by firms in the United States to their stores and agents at Odessa, the bulk of American goods dealt in there reaches that part of Russia through the medium of German houses which act extensively as distributing agents. The result of this is that there are many houses at Odessa that carry in stock American goods, but in no case do they do so upon an extensive scale. The articles thus imported embrace various hand tools, scents, soaps, synthetic essences, dried fruits, and occasionally aluminum ware, canned or preserved goods, sewing machines, bicycles, motors, and automobiles, etc. [A list of the principal houses classified according to the articles dealt in may be secured from the Bureau of Manufactures.]

ICELAND.

COMMERCE AND AGRICULTURE ARE BECOMING MORE IMPORTANT.

Consul-General Frank R. Mowrer writes from Copenhagen that Iceland now has direct commerce with Denmark, Norway, England, Germany, France, and other countries. He describes the growth of the island's trade and its industries as follows:

Fishing has always been the chief industry, but more recently agriculture and the general trade have been increasing. The Icelandic fishing banks are considered among the richest in the world. Sailing craft and a few motor boats are employed in the fishing industry, and several steam trawlers are being tried as an experiment. Dried fish, chiefly herrings, are exported in large quantities. Whale fishing is extensively pursued by the Norwegians. Exports of fish are made to Denmark, England, Norway, Italy, and Spain. Ice-

landers carry on considerable sheep and horse breeding and export large quantities of mutton, particularly to Norway.

The foreign trade of the island for the comparative periods 1900 and 1905, the last year for which statistics are available, was as follows:

	Exports.		Imports.	
	1900.	1905.	1900.	1905.
Denmark.....	\$712,223	\$1,323,778	\$1,637,556	\$2,356,777
England.....	864,828	807,568	583,307	928,872
Norway.....	299,339	327,568	* 215,113	* 444,088
Spain.....	314,668	483,285	33,968	146,800
Italy.....	153,903	235,427		
Other countries.....	63,192	65,973		
Total.....	2,408,173	3,243,590	2,469,044	3,877,137

* Including Sweden.

Customs duties are collected on spirits, tobacco, coffee and coffee substitutes, sugar, sirup, tea, chocolate, and confectioneries. All other imports are duty free. In addition to fish the principal exports from Iceland to Denmark are mutton, wool, and skins. As in the case of imports from Denmark the greater part of the exports are received in Denmark for transshipment to other countries. As Icelandic commerce develops the port of Copenhagen will probably continue to be the distributing point, chiefly on account of its excellent free harbor and direct shipping facilities. England and Norway will have a part of this trade by reason of direct shipping connections.

PROGRESS OF THE COUNTRY.

Since the autumn of 1906 Iceland has had cable communication with Europe, the Great Northern Telegraph Company having twenty years' concession of the cable line between Iceland and the Shetland Islands. The inland telegraph lines belong to the Icelandic government, and, according to an act of the "Alting" or parliament, at its last session, these lines will be extended throughout the country. It is expected that they will be completed during the present year.

Iceland is one of the few countries without a public debt. In addition to several savings banks, there are the Islands Landsbank and the Islands Bank. Both are authorized to issue paper money to a certain amount; the former is owned and guaranteed by the Icelandic government, the latter is a stock company under the supervision of the State.

Up to the present time no mining has been done in Iceland. It is stated that investigations have shown that there are rich veins of gold in the vicinity of Reykjavik, the chief port. Last year an agricultural society in Copenhagen sent an engineer to Iceland to investigate the agricultural conditions. He has reported that by a system of irrigation 16,547 hectares, equal to 40,888 acres, can be placed under cultivation at a cost of about \$1,600. At present only 17,019 hectares, equal to 42,054 acres, are under cultivation. It is claimed that the construction of roads, bridges, and especially railroads, would contribute much to the development of the country. There are important waterfalls that could be utilized for power purposes.

BRITISH INDIA.

LARGE INCREASE IN IMPORTS—SMALL INCREASE IN EXPORTS.

The following statistics, covering the foreign trade of British India for the three fiscal years ended March 31, 1908, and the inland trade for a shorter period, are furnished by Consul-General William H. Michael, of Calcutta.

The first table shows a steady increase in the value of imports of private merchandise, but the exports of Indian merchandise in the year ending March 31, 1908, were only \$1,017,293 in excess of those of 1907, but were \$50,659,914 in excess of those of 1906. The balance of trade in 1908—deducting the imports of private merchandise from the exports of Indian products—in favor of India was \$145,427,617. This takes into account only the sea-borne trade, and refers only to private merchandise imported and Indian merchandise exported. The reexport of foreign merchandise is not taken into the account, nor are government stores or public and private treasure.

IMPORT STATISTICS.

The following statement shows the imports of private merchandise and government stores into British India, by provinces, during the three fiscal years:

Provinces.	1905-6.	1906-7.	1907-8.
Private merchandise:			
Bengal	\$139,671,180	\$140,019,848	\$175,281,600
Eastern Bengal and Assam	(a)	1,263,329	1,417,271
Bombay	121,731,308	126,872,621	149,377,937
Sind	29,042,930	31,395,615	35,072,422
Madras	25,915,791	30,219,986	34,184,260
Burma	27,252,357	31,253,872	37,166,216
Total	343,613,566	361,025,271	432,529,706
Government stores	30,098,904	29,788,716	22,140,379
Total merchandise	373,712,470	390,813,987	454,670,085

The following statement shows the imports of treasure, private and government, during the three years:

Description.	1905-6.	1906-7.	1907-8.
Private treasure:			
Bengal	\$20,182,812	\$28,487,296	\$24,850,223
Eastern Bengal and Assam	(a)	5,194	38,273
Bombay	46,787,400	56,941,344	77,962,500
Sind	1,214,012	1,913,821	2,927,818
Madras	1,269,897	2,695,127	2,943,712
Burma	283,507	606,165	639,312
Total	69,737,628	90,648,947	109,361,838
Government treasure	35,765,414	57,929,418	31,546,895
Total treasure	105,503,042	148,578,365	140,908,733
Grand total imports	479,215,512	539,392,352	595,578,818

* Entered with Bengal.

EXPORT STATISTICS.

The following statement shows the exports of Indian merchandise, the exports of foreign merchandise (reexports), and the exports of

treasure, by provinces, during the three fiscal years, 1905-6, 1906-7, and 1907-8:

Provinces.	1905-6.	1906-7.	1907-8.
Indian merchandise:			
Bengal	\$234,749,546	\$262,248,870	\$232,826,045
Eastern Bengal and Assam.....	(a)	13,007,331	12,460,146
Bombay	152,455,171	142,545,312	152,998,374
Sind	36,907,456	51,085,327	58,574,511
Madras	51,518,796	57,565,632	62,058,697
Burma	51,666,440	50,487,568	59,044,550
Total	527,297,409	576,940,040	577,957,323
Foreign merchandise:			
Bengal	667,235	761,911	712,802
Eastern Bengal and Assam.....	(a)	183	250
Bombay	9,220,062	8,569,657	9,680,710
Sind	1,273,843	1,588,874	1,590,014
Madras	464,993	487,917	348,487
Burma	136,566	204,920	221,779
Total	11,762,699	11,613,462	12,554,042
Private treasure:			
Bengal	1,010,720	2,154,561	1,410,180
Bombay	19,465,803	16,080,157	14,678,024
Sind	327,007	270,135	516,924
Madras	553,541	476,562	1,513,206
Burma	142,583	11,943	35,758
Total	21,499,154	18,943,358	18,154,092
Government treasure	30,067,495	17,483	7,573
Total treasure	51,566,649	18,960,841	18,161,665
Grand total exports	578,864,058	595,900,881	596,118,988
Import duty collected, including salt.....	22,802,206	23,071,572	24,469,944
Export duty collected.....	3,837,085	3,510,635	3,411,219

a Entered with Bengal.

INLAND TRADE.

The import and export trade of India with her neighbors by land intercourse amounted, during the ten months ended January 31, 1908, to \$41,666,660, an increase, as compared with the same ten months of 1906-7, of \$2,733,330. The following statement shows this trade as distributed among the several States:

States.	Value.	States.	Value.
Nepal	\$12,537,482	Sikkim	\$460,965
Shan States	8,608,267	Ladakh	378,946
Afghanistan	7,081,000	Khelat	375,677
Dir, Swat, and Bajaur.....	3,939,354	Lus Beyla	267,591
Western China.....	2,267,590	Persia	230,993
Slam	1,866,665	All other States	1,035,720
Tibet.....	1,421,332		
Karenne	1,195,078	Total	41,666,660

The imports from Afghanistan amounted to \$3,066,666, and consisted chiefly of wood, \$1,086,777; ghee, \$183,333; asafetida, \$87,080; live stock, fruits and nuts, hides, opium, tobacco, sugar, etc. This must be considered remarkable when the wildness of the country and the lack of transportation facilities are taken into account.

The chief imports into India from Dir, Swat, and Bajaur are cattle, sheep and goats, ghee, grains, hides and skins, rice, mustard oil, mats, and timber. Borax was the chief article imported from Tibet. From Nepal the leading import was food-grains, chiefly rice, valued at \$4,175,000; ghee, \$606,612; cattle, \$539,000, and mustard and rape,

\$440,000. Cereals were imported from the northern Shan State to the value of \$309,000, and from both the Shan States strick-lac was imported to the value of \$340,000.

The articles which constituted the imports from the other neighboring States were horses and cattle, sheep and goats, fruits, vegetables, nuts, rubber, drugs, opium, musk, goat and sheep skins, etc.

JAPAN.

REVIEW OF TRADE.

CONTINUED INCREASE IN IMPORTS AND DECREASE IN EXPORTS.

According to statistics contained in a newspaper clipping transmitted by Consul Hunter Sharp, of Kobe, the foreign trade of Japan for the first three months of 1908 was as follows:

Imports amounted to \$69,476,231 and exports to \$47,248,696. As compared with the first three months of 1907 this was an increase of \$8,892,587 in the imports, but a decrease of \$8,327,596 in the exports.

Raw cotton, the premier import of Japan, amounted to \$18,385,074 for the first three months of 1908, which was about \$150,000 less than the imports in 1907.

Outside of sugar, the imports of which show an increase of over \$2,780,000 as compared with 1907, nearly the whole increase in imports occurred in articles "wholly manufactured," which, as of special interest to American manufacturers, is herewith reproduced:

Articles.	First three months of—	
	1907.	1908.
Shirtings and cotton prints.....	\$397,986	\$767,093
Cotton satins and umbrella cloths.....	645,550	918,968
Woolen cloths and serges.....	1,062,899	510,515
Mousseline de Laine.....	210,943	151,678
Papers.....	863,509	815,926
Oil kerosene.....	1,454,138	1,774,810
Iron nails.....	407,557	442,135
Locomotives and rolling stock.....	447,271	321,857
Steam vessels.....	264,403	757,870
Machinery.....	2,543,470	5,126,199
All other manufactures.....	5,586,414	5,660,236
Total.....	13,884,140	17,237,265

As compared with the first quarter of 1907, the principal exports showing decreases in 1908 were: Waste silk, camphor, raw silk (\$1,400,000), cotton yarn (\$1,390,000), copper (\$2,950,000), straw plaits and chip braid, silk handkerchiefs, cotton tissues (\$500,000), porcelain and earthenware, and matches. The exports showing increases in 1908 were: Rice, coal, mattings, etc.

MARKET FOR ANIMAL GALLSTONES.

USED AS A MEDICINE IN TREATMENT OF DISEASES OF CHILDREN.

Much interest having been aroused in the announcement that a good market existed for animal gallstones in Japan, Consul-General Henry B. Miller has secured the following statement from a Yokohama firm handling this product:

Gallstones are much in favor in this country as a medicine, it being commonly believed that they possess efficacious properties when used in the treatment of

diseases of children. They are classified on the market, to distinguish their origin, as oriental and occidental, the former being supposed to possess the greater virtue, and in consequence being of greater market value, though the latter also finds a ready sale at a slightly lower figure.

The value of the article varies according to its quality, size, and color. The larger the size and the brighter the color the greater the market value. Broken or cracked stones are worth only half as much as perfect ones. The minimum price for good marketable stock and the lowest valuation at which the custom-house officials here will pass the invoices is 40 yen, or \$20 gold, per pound avoirdupois. From this figure the price runs up according to quality.

A small lot, if properly packed, can be sent by parcels post. To insure safe arrival each stone should be separately wrapped in cotton wool, and packed neither loosely nor tightly, but firmly, in a substantial wooden or tin box. A convenient-sized box, we find, runs about $2\frac{1}{2} \times 3 \times 5$ inches. Insurance ought to be effected at the time of shipment, and it will be well to register the package.

[The consul-general also forwards other names of Japanese dealers in drugs, chemicals, and gallstones, which may be obtained from the Bureau of Manufactures.]

MITSUI COMPANY REORGANIZATION.

CHANGES TO BE INAUGURATED IN EMPIRE'S BIG TRADING CONCERN.

Consul-General Miller also forwards from Yokohama the following Japanese newspaper account of the reorganization of the largest commercial house in that Kingdom:

It appears that the Mitsui Company has under consideration a scheme to reform the organization of its business, because of the large extension of its operations since the war. Since the late war came to an end the company has largely extended its business in Europe, America, Australia, and Asia, and for a time the annual amount of business done exceeded \$100,000,000 gold. An undertaking handling such an enormous trade is seldom to be found. The branch offices and agencies scattered over the world number 76, and the firm's employees number 1,300. It is doubtless in consequence of the enormous size of its transactions that the financial depression has been felt so severely by the Mitsui Company—the reaction on the company during the period of depression having been as powerful as the extension of its business was great during the boom. The staff of the Shanghai branch exceeds 100, and owing to the prevailing depression many of the employees have now no business to occupy their time, the same consideration applying to many employees in the 67 offices abroad.

STRAITS SETTLEMENTS.

DECREASES SHOWN IN EXPORTS FOR FIRST QUARTER OF PRESENT YEAR.

Vice-Consul-General George E. Chamberlin, of Singapore, reports that the export trade of the Straits Settlements has experienced a decided depression during the first three months of the year 1908, as compared with the same period in 1907, the United States being the market which shows decreases in the greatest number of products. The vice-consul writes:

The only articles of export to the United States showing an increase are cloves and pearl tapioca. Shipments to England and the Continent of Europe were more satisfactory, but in a majority of instances show a marked decrease, the principal gains being in tin, copra, black pepper, and rattans.

Of the total exports to all countries, copra shows a gain of 6,769 tons; tin, 1,836; tapioca flour, 505; pearl sago, 244; para rubber, 186; coffee, 179; and cloves, 55 tons. Out of the 26 principal items of export only the 7 mentioned show an increase in shipments. The

following table shows the quality in tons (2,240 pounds) of exports of the principal products from the Straits Settlements, including the ports of Singapore and Penang, for the first three months of the years 1907 and 1908:

Article.	United States.		England.		Continent of Europe.		Total all countries.	
	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.
Cloves.....	24	7	58	20	0	0	82	27
Ooffer.....	76	80	0	0	103	20	179	100
Copra.....	0	0	703	627	15,177	8,384	15,880	9,011
Gambler.....	2,111	2,228	1,205	1,587	75	1,595	3,391	5,410
Cuba.....	170	322	223	327	10	236	403	885
Gum:								
Benjamin.....	4	6	9	25	26	60	39	91
Copal.....	655	1,130	698	717	566	762	1,919	2,609
Dammar.....	12	43	11	29	13	92	36	164
Gutta-percha.....	20	85	67	404	249	361	327	850
Jeletong.....	287	3,151	150	84	166	73	603	3,308
Hkies.....	25	140	238	578	66	84	329	802
Mace.....	14	19	0	3	0	0	14	22
Nutmegs.....	89	153	30	21	7	22	126	196
Pepper:								
Black.....	1,435	2,040	608	566	3,083	2,572	5,126	5,178
White.....	176	339	694	730	697	677	1,567	1,746
Rubber:								
Borneo.....	84	193	1	95	69	122	154	410
India.....	0	0	19	37	0	21	19	58
Para.....	0	0	275	125	46	10	321	135
Rattans.....	635	1,398	671	423	2,938	2,417	4,244	4,238
Sago:								
Flour.....	639	1,329	3,408	4,558	4,857	3,298	8,004	9,185
Pearl.....	84	118	530	205	520	567	1,134	890
Tapioca:								
Flake.....	58	620	1,500	1,492	771	911	2,329	3,023
Flour.....	29	47	631	154	71	25	731	226
Pearl.....	2,154	1,811	1,433	1,670	1,058	1,225	4,645	4,706
Tin.....	2,076	3,969	10,896	7,961	2,441	1,047	15,413	13,577
Pineapples cases..	39,917	64,128	124,388	153,234	11,961	23,833	176,266	241,195

Taking values into consideration, the falling off is much greater, as in practically every instance prices are lower than one year ago, and where prices have advanced such advances have been very slight.

CURRENT MARKET QUOTATIONS—TRADE IN COPRA.

The following table, compiled from the Singapore market reports, shows the prevailing prices per picul (133½ pounds) of some of the principal exports at the end of the first quarter of the years 1907 and 1908:

Articles.	1907.	1908.	Articles.	1907.	1908.
Copra, sun dried, mixed, etc.....	\$6.02 to \$6.09	\$3.60 to \$3.86	Rubber—Continued.		
Cloves.....	19.28	20.41	Para. biscuit and sheet.....	\$170.10	\$90.72
Gambler.....	3.77	3.88 to 3.94	Sago:		
Cuba. Nos. 1 and 2.....	6.18	5.81 to 6.94	Pearl, small.....	2.18	2.27
Jeletong.....	3.68	2.10 to 2.69	Flour, No. 1.....	1.70	1.70
Nutmegs:			Tapioca:		
110 per pound.....	15.02	12.23	Flake, small.....	5.16	4.19
80 per pound.....	24.10	13.82	Pearl—		
Pepper:			Small.....	5.39	3.40
Black.....	10.35	6.90	Medium.....	5.67	3.97
White, Sarawak.....	15.17	11.62	Bullet.....	6.38	4.30
Rubber:			Tin.....	52.73	40.82
Borneo—					
No. 1.....	70.30	58.97			
No. 2.....	54.72	37.42			
No. 3.....	42.24	30.05			

A local journal publishes the following concerning copra:

Singapore relies much upon its trade in copra, which is yearly expanding, the last twelve months indicating an advance of 50 per cent above the figures of the

year previous. This is owing possibly to the conference at Java and at Macassar appreciating to a greater extent than formerly the recognized rates of shippers instead of endeavoring to fix on figures below a general parity. It is asked, now that Singapore's success with this product is so marked, why local merchants do not import machinery to the islands for dessicating coconuts which has been found to be such a large and profitable industry in Ceylon.

ASIATIC TURKEY.

OLD-FASHIONED SLEEPING ARRANGEMENTS—BEDSTEAD OPPORTUNITY.

In reply to inquiries regarding the bedstead trade in Bagdad Consul William C. Magelssen submits the following report:

Foreign bedsteads made their appearance here some eighty years ago, when British merchants first came to enter into the commerce of these regions. At that time the beds were not introduced to be sold, but were brought by these pioneer traders to add to their own comforts, of which Bagdad could, at that time, offer but few. The only bed then known to the natives was a queer rectangular structure, which continues to be largely used. It resembles a bird cage with the top off, and is very cheap—being built of the dry branches of the date palm. It has an opening on one side, into which a person seats himself, then throwing the feet up he turns until the body is properly inside. It is estimated that 20 per cent of Bagdad's population, which is believed to be 200,000 souls, employs this style of furniture. Other bedsteads much in vogue are coarsely built of wood; they are called "takets," and are used by the better class; they range in price from \$1.50 to \$7. It is interesting to report that a very large taket, sometimes measuring as much as 10 feet square, is found in the houses of some of the notable families of Bagdad. They are usually heirlooms, built of expensive lumber, and in most instances elaborately carved. These old-fashioned beds are no longer manufactured. Their values range from \$25 to \$50.

ROOF BED ROOMS—BEDSTEAD INTRODUCTION.

About 60 per cent of Bagdad's population possess no beds. These poor people rest on blankets spread on the floors of their houses in the winter and on the roofs in the summer. Owing to the excessive heat of these regions sleep is made impossible elsewhere than on the roof or in the open gardens. It is an interesting sight to see how the women at sunset emerge from their houses to prepare the evening meal on the roof, and spread the bedding for the night. Inasmuch as the climate is very dry, there is little to fear from exposure to the night air. While a considerable number of the roofs are surrounded by lattice work to insure a certain amount of privacy, by far the larger number are quite exposed to the gaze of curious and inquisitive neighbors.

Comparatively few foreign iron bedsteads reached this market until recently, this being principally due to the fact that no attempts were made to introduce them. About six years ago a Birmingham manufacturer managed to drive an opening wedge into the local market, and since that time English bed importations have grown rapidly. After making a close investigation in the Bagdad bazaars I have ascertained that the yearly sale of this article of furniture amounts to

\$17,000. A small lot of German-made beds has just appeared, but inasmuch as they are still quite new in these parts, it is impossible to say what degree of success may attend the venture.

AMERICAN TRADE PROGRAMME.

A splendid market can be created here for American iron bedsteads, and a well-known merchant of this district [name on record at Bureau of Manufactures] is best able to introduce and handle this line of manufacture.

It should be borne in mind that goods arriving in Bagdad are not only for local consumption, but that this is a distributing center for Mesopotamia and the northwestern part of Persia. It is probable that if this business can be properly organized and conducted in Bagdad that depots can to good advantage be established in Kermanshah and Hamadan, two important trading points in Persia.

Bagdad has no newspapers in which it would pay to advertise. There is really but one publication, and that devotes its columns entirely to Government notices, transfers of officials, and recipients of decorations bestowed by the Sultan. Advertising pays in the United States and it will pay here. One way of placing goods before the native population would be to send descriptive pamphlets, attractively illustrated, printed in the Arabic language, for distribution in this territory. Arabic printing can be executed at any Arabic newspaper office on Washington street, New York City.

CHINA.

BY PROPER EFFORT THE TRADE IN AMERICAN SOAPS CAN BE ENLARGED.

Deputy Consul-General Stuart J. Fuller, of Hongkong, furnishes the following information concerning the trade in foreign soaps in China:

There is a constantly growing demand among the Chinese of South China for soaps of foreign manufacture. The imports of soap from foreign countries in 1906 were as follows, in gold: United States, \$22,595; Hongkong, \$74,032; United Kingdom, \$515,294; Austria-Hungary, \$158,704; Germany, \$109,276. A portion of the imports from Hongkong was American, but how much can not be stated. The imports from Austria were more than double those of the preceding year. The imports from Germany are also increasing. The American business is slowly growing.

During the year 1906 the southern treaty ports entered only 9 per cent of the total imports for the Empire, but this does not alter the fact that the market is a growing one and capable of development. The greatest demand at present is for highly-scented soaps of medium and lower grade, put up in attractive cartons and wrappings.

Aside from the fact that the market has not been pushed by American manufacturers, their small share in the trade is laid to their refusal to wrap their product in packages bearing labels in the Chinese language. The Austrian and German manufacturers and, to some extent, the English and Australian have portions of their labels printed in Chinese, and all bear a distinctive emblem, or "chop,"

without which it is practically useless to attempt the development of a trade with the Chinese.

Most of the export and import houses in Hongkong carry English, German, or Austrian soap accounts, and it might be worth the while of American manufacturers to correspond with the companies whose names are herewith submitted. [Names of companies are on file in the Bureau of Manufactures.]

FORMOSA.

EXPORTS OF CAMPHOR AND CAMPHOR OIL SHOW LARGE INCREASE.

The British consul at Tamsui reports that the total exports of camphor from Formosa in 1907 amounted to 4,121,566 pounds, of which 2,452,933 pounds was sent to Havre, London, and Hamburg, 1,635,300 pounds to America, and 33,333 pounds to Madras. Of this amount, 1,079,733 pounds (1,046,400 pounds for America and 33,333 pounds for Madras) was shipped by local steamers from Keelung for transshipment at Kobe. Thus no camphor was ultimately destined for Japan. It was reported that there was a large increase in the camphor manufactured by the camphor monopoly in 1907 as compared with 1906, the figures being 5,388,918 pounds, as against 4,040,838 pounds.

By the latest returns the production of camphor oil has nearly doubled in 1907, being 6,710,390 pounds, as against 3,610,645 pounds in 1906. Hitherto all the camphor oil has been shipped to Kobe to be converted into refined camphor, but in the fiscal year commencing April, 1908, a sum of about \$70,000 was to appear in the estimates to meet the expense of erecting a refinery in Taihoku, the capital of Formosa, and in future the camphor will undergo the necessary process there. It is said that a new method of distillation has been discovered, and that by this method, as well as by the saving of expense in transport, a considerable economy will be effected.

PHILIPPINE ISLANDS.

LARGEST IMPORTS LAST YEAR SINCE THE AMERICAN OCCUPANCY.

From a publication just issued from the Bureau of Insular Affairs, War Department, the following statistics are compiled, showing the foreign trade of the Philippine Islands for the calendar year 1907:

The total trade of the islands during the year, exclusive of gold and silver, now free government entries, was as follows: Imports, \$30,453,810; exports, \$33,097,867; an increase, as compared with 1906, of \$4,050,042 in the imports and of \$454,975 in the exports. The imports and exports of the islands with the leading countries were as follows in 1907:

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
United States.....	\$5,067,538	\$10,829,387	Japan.....	\$1,004,303	\$591,873
United Kingdom.....	6,811,550	9,375,448	France.....	903,277	3,407,972
China and Hongkong....	3,096,391	4,414,306	Belgium.....	304,279	315,003
Australasia.....	1,974,714	471,667	Italy.....	273,825	194,941
Germany.....	1,919,209	498,383	All other countries.....	5,612,768	756,897
Spain.....	1,918,804	1,752,398			
British East Indies.....	1,572,152	969,590	Total.....	30,453,810	33,097,867

The relatively large amount of imports entered with "all other countries" is due to the imports of rice (\$3,962,661) from French

East Indies and from Siam (\$156,608), countries not designated in the foregoing list.

METAL GOODS' IMPORTS—MISCELLANEOUS.

Iron and steel, including machinery, are the other chief imports of the islands wherein American manufacturers should increase their trade, in which they now hold a fair share considering the little effort put forth to secure it, as will be seen by the following statement showing the imports in 1907:

Articles.	Total imports.	Imported from—		
		United States.	United Kingdom.	Germany.
Rails for railways.....	\$94,736	\$11,195	\$76,079	\$3,104
Sheets and plates.....	352,114	99,607	236,751	2,244
Structural iron and steel.....	119,347	107,940	5,607	-----
Tools.....	111,510	43,716	28,903	27,398
Outlery and builders' hardware.....	121,608	17,642	30,970	35,802
Castings.....	94,728	27,653	41,514	13,019
Pipes and fittings.....	127,546	29,464	93,998	2,388
All other articles.....	649,526	136,877	180,330	177,455
Total iron and steel.....	1,671,115	474,184	694,152	261,410
Machinery:				
Electric machinery.....	61,150	56,574	1,305	3,154
Sewing machines.....	115,401	25,304	3,650	86,189
Parts of, including steam engines and locomotives.....	100,109	30,317	52,617	6,774
Typewriting machines.....	49,569	47,506	1,766	67
All other machinery.....	294,984	130,372	88,947	18,607
Total machinery.....	621,213	290,073	148,285	114,791
Total iron and steel and machinery.....	2,292,328	764,257	842,437	376,201

In leather and leather goods the United States holds 65 per cent of the total trade; in boots and shoes, \$301,181 out of a total import of \$419,749. In cement, out of a total import of \$319,319, only \$547 worth was imported from the United States, against \$79,842 from the United Kingdom, \$30,474 from Germany, and \$189,319 from Hongkong. In chemicals and medicines, opium excluded, out of a total import valued at \$411,899, the share of the United States was only \$84,280. In India-rubber goods and scientific instruments the United States holds the greater part of the trade. The imports of illuminating mineral oil from the United States in 1907 amounted to \$635,734 in a total import of \$859,278, which the Bureau of Insular Affairs says was more than double the imports of the American product in 1906. The balance of this product was imported from Dutch and British East Indies. In paper and paper manufactures the United States has a good lead of any other country.

LINES OF AMERICAN COMPETITION—TEXTILE IMPORTS.

To arrive at any fair conclusions as to the standing of the United States in the Philippine import trade, and wherein such standing can be increased, it is necessary to eliminate for the present to some extent certain products supplied by Asia and Australasia, among which are cattle, imported from China and French East Indies; coal from Australasia; rice from French East Indies and Siam; fresh beef from Australasia, and other meats from Australasia and China. In relation to the flour trade of the islands, the Bureau of Insular Affairs says:

Up to 1904 this was a virtual monopoly of the United States, but American flour has rapidly lost ground since, and in 1907 the imports amounted to only \$396,151, while the Australasian product, with the advantage of a shorter haul

and a lower price, has found a steadily increasing market in the islands, from a nominal value of \$1,185 in 1903 to \$649,704 in 1907.

The flour imports from the United States in 1907 averaged about \$4.04 per barrel, and from Australasia \$3.88 per barrel.

Deducting the total imports of Asiatic and Australasian imports leaves about \$20,000,000 as the imports into the islands wherein American trade might at once be increased.

The principal import of the islands in this latter computation is cotton manufactures, wherein American exporters hold a very small percentage, comparatively speaking, as will be seen in the following statement showing the imports in 1907:

Description.	Total im- ports.	Imported from—				
		United States.	United Kingdom.	Spain.	Ger- many.	Switzer- land.
Cloth.....	\$6,113,189	\$884,775	\$3,588,287	\$134,245	\$144,677	\$870,554
Knit fabrics.....	965,852	10,724	16,343	626,875	244,671	26,814
Tulles and laces.....	98,647	372	70,527	767	7,229	787
Wearing apparel.....	121,232	26,418	15,396	839	44,097	11,515
Yarn and thread.....	1,229,333	3,837	763,025	15,385	14,776	118,085
All other articles.....	401,493	24,344	158,978	30,670	85,498	22,905
Total.....	\$8,924,746	950,465	4,612,546	808,781	540,948	551,210

The foregoing countries are those with which the United States will have to compete for the cotton-goods trade of the Philippines, the character of the goods being, approximately, the same as American cottons. However, Asia must also be taken into account as a competitor for this trade, the imports from British India in 1907 amounting to \$558,012, and those from Japan \$250,510; cotton cloth from the first amounting to \$345,011, and yarns \$206,974, and cotton cloth from Japan amounting to \$203,881.

SALES EFFORTS—TOTAL EXPORTS—SHIPPING STATISTICS.

In nearly all imports of manufactures into the Philippines in 1907 the share of the United States was only partly satisfactory, while its share of the imports of cotton manufactures, especially cotton piece goods, was very small. With anything like proper effort on the part of American factors there is no reason why one-half the piece-goods trade of the Philippines should not be composed of American cloth. With the proper efforts put forth in this direction an increase in all other cottons would necessarily follow.

Of the exports from the Philippines to the United States (\$10,329,387), hemp constituted \$9,316,539, the other chief exports to the United States being sugar, copra, and maguey. Hemp, copra, and sugar constituted \$19,689,493, \$4,784,151, and \$4,195,671, respectively, of the total exports of the islands—hemp alone being nearly 60 per cent of the whole.

According to the Bureau of Insular Affairs the shipping engaged in the foreign trade of the Philippines in 1907 was as follows:

Flag.	Entered.	Cleared.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
American.....	89,670	87,233	176,903
British.....	867,000	828,494	1,695,494
German.....	181,602	174,253	355,855
All other.....	241,032	239,458	480,490
Total.....	1,379,994	1,329,438	2,709,432

DUTCH EAST INDIES.

EXTENSIVE SHIPMENTS FROM THE ISLANDS TO THE UNITED STATES.

Consul B. S. Rairden sends from Batavia the following statistical exhibit of the exports from Netherlands India to the United States for the past three calendar years. The figures for 1907 are from his consular records, while many of those for the two previous years are from Government statistics:

Articles.	1905.	1906.	1907.
Bamboo hats.....	\$148,881	\$296,999	\$211,220
Cassia.....	132,654	119,676	130,922
Cocoa.....	61,459	192,498	182,576
Coffee.....	1,537,900	1,186,381	1,280,291
Damar.....	166,684	315,080	210,124
Getah jelotong.....		10,168	3,300
Grass (pandan) hats.....		355	42,973
Gum copal.....	32,404	24,435	34,168
Hides and skins.....	115,927	278,815	363,351
Kapok fiber.....	333,256	319,070	470,034
Mace.....	25,085	32,159	30,156
Nutmega.....	98,570	50,165	50,934
Oil of citronella.....	1,129	26,914	30,745
Pepper:			
Black.....	300,181	437,049	174,595
White.....		8,430	35,343
Petroleum (to Manila).....		35,422	
Quinine.....	75,774	84,149	25,087
Rattan.....	80,966	85,636	80,002
Rubber.....	18,447	21,401	24,413
Shells (pearl).....	31,675	90,557	180,455
Sugar (direct).....	11,667,304	8,645,000	13,421,421
Sugar (f. o.).....	9,776,792	1,698,578	
Taploca flour.....	100,305	384,454	515,980
Tin.....	23		51,642
Wood:			
Sandal.....		218	24,664
Teak.....	14,383	23,756	14,525
All other.....	310,881	118,116	49,510
Total.....	25,029,630	14,485,481	17,638,431

Of the \$363,351 worth of hides and skins exported to the United States during 1907, \$279,866 was goatskins, \$11,775 sheepskins, \$3,792 deerskins, \$909 snake skins, and \$234 for lizard skins, the balance being for hides.

NEW ZEALAND.

DROP IN EXPORTS TO UNITED STATES—BUSINESS CONDITIONS.

The falling off of exports from New Zealand to the United States was so remarkable during the quarter ended March 31 that Consul-General William A. Prickitt, of Auckland, sends the following report, giving statistics of comparison with former years:

The exports from Auckland to the United States for the quarters ending March 31 during the last two years were as follows:

Year.	1907.	1908.	Decrease.
Flax fiber.....	\$26,822	\$9,887	\$16,935
Pelts.....	155,828	27,962	127,866
Wool.....	138,319	11,088	127,231
Total.....	320,969	48,937	272,032
Total exports.....	322,767	51,526	317,240

exports to the United States from the Auckland kauri gum and flax fiber. Auckland Province is the principal supply for the former product, and the United States probably over half the entire production for many years. It took two-thirds of the output of 8,300 tons. A drop off in orders from America has created a great depression in the industry. Many of the gum diggers have stopped work, and the volume of exports has declined at least 20 per cent, and the volume of imports has diminished. It is thought that this depression will continue until and as soon as the present stock in the hands of importers is used and business revives in the United States and their purchases.

For the first part of 1907 the highest price ever received for kauri gum was recorded, \$185 per ton. At present the price has declined. The cause of this decline is attributed to the largely increased supply and low price of Manila hemp and the financial depression in the United States. Many of the flax mills have been closed, and the outlook for the immediate future is not reassuring. The exports in the table indicate the trade of Auckland with the United States. This trade was increasing until the suspension of the Oceanic steamship service in 1907, which was practically nil.

The imports into New Zealand from the United States for the first part of this year the figures are not yet available, but the total value is greater than last, for the reason that there have been giving large orders in lines of goods affected by the new tariff after March 31, 1908.

GOOD BUSINESS INDICATIONS.

Auckland has been exceedingly prosperous for a number of years, and is now very good. All the great distributing houses are doing well. The building trades particularly are well advanced. The city hall, a post-office, and a Young Men's Christian Association building, costing in the aggregate over \$1,000,000, are under construction, as soon as the architectural plans are perfected. Other improvements, including a drainage system for the city and its suburbs, are in contemplation. The butter and cheese trade has been making rapid headway by reason of the great demand from the many small farms of Auckland Province. The export trade last year was greater than ever before. The exportation has been retarded by drought during the first part of the year. The indications now are that an excellent trade at present prices will endure for the balance of the year. The leading banks are yet free from stringency in money. Business, therefore, is expected to be good in Auckland in spite of the declines in the principal export of wool and flax and the depression in the sales of its unique product, kauri gum.

REPORT FROM CHRISTCHURCH.

Frank Graham reports the decrease in the three months' trade to the United States from the Christchurch consular district for the quarters ending March 31, 1907 and 1908, as follows:

Description.	1907.	1908.	Decrease.
Flax fiber.....	\$26,822	\$9,887	\$16,935
Pelts.....	155,828	27,062	127,866
Wool.....	138,319	11,088	127,231
Total.....	320,969	48,037	272,932
Total exports.....	322,767	51,526	317,240

Mr. Graham writes:

With regard to the industrial and business conditions existing in this locality, we have had a long continuance of very prosperous years, particularly with respect to our agricultural and pastoral products. The money stringency in the United States is now being reflected here and is no doubt the chief cause of the falling off in volume and value of exports from New Zealand to the United States.

The flax industry is almost at a standstill. Wool has fallen in value probably 50 per cent from the highest point, and when it is remembered that every penny (2 cents) in the price realized in London or elsewhere means a sum of say upward of \$3,000,000 less annually to come back to New Zealand it is significant with respect to trade generally. Kauri gum, for which the chief market is the United States, has also fallen in value and the demand for pelts is at the present time nominal.

The preferential duties which came into force on April 1, though calculated to help Canada in her trade relations with these colonies by enabling her exporters to raise their prices, will, so far as New Zealand is concerned, be a revenue-producing measure, and American and other foreign goods will continue to be imported in competition with the Canadian. Trade appears to be very sound at the present time, but the banks and lenders show signs of a conservative policy, and the tendency is for dearer money.

There has been an exceedingly dry summer, but the grain crops are excellent and good rains have lately fallen which will insure winter feed for stock unless frosts intervene.

The accumulations of the last ten years or more have placed the farmers in a most prosperous position and most of them are quite independent of any outside monetary assistance. Indeed it is perhaps not too much to say that the farming community of New Zealand generally is probably the most prosperous that could be found in any country.

CONDITIONS IN SOUTHERN NEW ZEALAND.

Consular Agent F. O. Bridgeman reports heavy decreases in the exports to the United States from the Dunedin agency, the amounts for the first quarters of this and last year having been as follows:

Description.	1907.	1908.
Flax fiber.....	\$7,816	\$8,460
Pitch.....	152	
Wool.....	883,238	3,206
Total.....	891,206	11,675

Mr. Bridgeman writes:

The falling off is in the export of wool, of which, from this season's clip, practically nothing has been shipped to the United States.

To the absence of American buyers is to be attributed in a great measure the sharp decline in the price of this, one of the staple products of the Dominion. Fine cross-bred and half-bred wools are particularly affected by the shortage in the demand from the United States, and the average price of these wools in comparison with prices ruling last year has fallen 50 per cent. It is anticipated, however, that this decline is but temporary, and that the market will be more in favor of producers before the end of the year.

Business generally in my district continues prosperous and sound. The farmers and pastoralists have had several "fat" years and are now in a sufficiently strong position financially to stand any temporary depression. Grain is still ruling at high prices, very profitable to the growers and the recent harvest was a good one in the southern districts of the Dominion.

Our local industries are doing well generally, the woolen mills benefiting by the fall in the price of the raw material. The foundries and engineering works are not so active as they have been, which is to be accounted for to some extent by the gold-dredging industry being considerably curtailed. This industry, which is carried on principally in the district of Otago, had exceedingly good results when it was first started a few years ago and a great number of dredges were built in Dunedin, which kept the iron foundries very busy. The majority of the dredges, however, failed to give payable results, and dredging for gold is now confined to a few good claims which continue to give a fair return. At present there are about 130 dredges owned by public companies working in this district, and the average total yield of these is about 8,000 ounces per month. In addition to these there are some privately owned dredges, the returns from which are not made public.

TRADE IN CAPITAL CITY DISTRICT.

Consular Agent J. G. Duncan reports the following decreased exports to the United States from the Wellington agency for the quarters ended March 31:

Description.	1907.	1908.
Pickled sheep and lamb skins.....	\$141,002	\$146,882
Flax fiber.....	25,975	26,352
Salted sheep casings.....	24,296	
Wool.....	23,861	5,430
Natural history specimens.....		365
Total.....	214,634	179,029

Mr. Duncan writes:

With regard to the industrial and commercial conditions now existing I may say that the outlook is far from as promising as at this time last year. Conditions have altered entirely in the last six months, during which time the main staple products of the Wellington and Hawke's Bay provinces—wool, meat, and hemp—have fallen in value about 25 per cent. Butter and cheese, on the other hand, are unusually high; but owing to the summer having been the dryest experienced here for over twenty years, the output of these articles has been so reduced that producers have been unable to fill existing contracts, much less take advantage of the ruling high prices.

Again, there is a growing tightness in the local money market, largely due to a wave of caution passing over the community, which was startled by the recent financial crisis in the United States.

Labor conditions are unsettled, and altogether there is reason to fear that the winter may be bad for trade generally.

However, the rapid cheapening of money in London may ease the local financial market; and this, combined with improved conditions in the United States, may result in reinstating the values of wool and hemp in the world's markets, which would be followed by a return of the prosperity which has been with us for the past decade.

EAST AFRICA.

EXCHANGES WITH THE INTERIOR—AMERICAN INTERESTS.

The following information concerning the changes in the trade of Zanzibar owing to the increasing commercial importance of British and German East Africa, together with the conditions prevailing in the three divisions, is furnished by Consul Calvin F. Smith, of Zanzibar:

For years Zanzibar was the entrepôt for Africa. Trade routes centered here, ivory and other products from the interior of the African continent were brought here and exchanged for the cotton goods and trinkets which formed the medium of exchange with the natives. Ships from Europe and America discharged their cargoes here and carried back the ivory, cloves, and skins. But all such products now find entrance and outlet through British and German East Africa. It must not be inferred, however, that the trade of Zanzibar has decreased proportionately as the trade of the coast towns has increased. Barring the setback which the Zanzibar trade received by reason of the quarantine against the plague, the trade of Zanzibar is very good and has been so for some time. All the trade of Zanzibar and Pemba goes through Zanzibar, and these two islands produce, according to recent estimates, 95 per cent of the cloves used in the world, and the clove crop for the last two years was excellent.

MOMBASA AS A TRADE CENTER.

The completion of the Uganda Railroad from Mombasa to Port Florence on Lake Victoria Nyanza, 580 miles, suddenly brought Mombasa into prominence as one of the future mainland ports of East Africa, and this has been enhanced from year to year until now Mombasa is a port of call for all the regular steamship lines maintaining communication with Europe. The Uganda Railroad taps not only the heart of Central Africa, but draws a considerable amount of its carrying trade from sections of German East Africa not reached by the German railroads. Very little if any of the goods shipped to or from points served by the Uganda Railroad reach Zanzibar for transshipment.

To add to all this the climate of the plateau behind the low coast belt was found favorable to Europeans, and modern towns began to spring up in that section, along the railroad, quite European in character, notably Nairobi and Machakos. European settlers came to

those towns, settled the surrounding country and engaged in agriculture. This created a demand for agricultural and labor-saving machines. Some American manufacturers have taken advantage of this opportunity and are sending their representatives into that country, which is developing rapidly and offers excellent opportunities to manufacturers of agricultural machinery. Rubber and fiber plantations are being laid out and cattle ranches established. A commercial campaign to secure a fair share of this trade must be conducted from Mombasa. Most of the commercial nations have consuls there looking after this trade. Mombasa has an excellent harbor, called Kilindini.

But little more can be said of the climate and health conditions than has already been said of Zanzibar. Mombasa Island is higher and some claim that it is healthier. The old firms who have been in Zanzibar and on the coast for years have realized the growing importance of Mombasa and nearly all of them have branches at that place. The town has wide streets and more of a modern European aspect than Zanzibar. The immigration authorities of British East Africa are rather strict, and require the intending settler to have a capital of at least £50 (\$243) on landing.

GERMAN EAST AFRICA AND THE ZANZIBAR DHOW TRADE.

German East Africa has a simpler and more expeditious system for registering homesteads or plantations than British East Africa. It is pushing into the interior by two principal lines of railroad instead of one, and even more are projected. The northern line has Tanga for its port and taps the Kiliminjaro country, while the southern line extends inland from Dar-es-Salaam, the principal town in German East Africa and the place of residence of the governor. It is proposed to still further extend either one or both of these lines. Each road has its adherents and both sides produce good arguments why its line ought to be extended. The steamships of the German East African line call regularly at both Dar-es-Salaam and Tanga.

By these means of communication but little is left to filter through Zanzibar except the dhow trade from the East African mainland. The dhow trade between Zanzibar and the various coast towns is considerable. During the northeast monsoon hundreds of dhows come from the Somali coast, Persian Gulf, and India loaded with various products of these places, and return after the monsoon has changed with cargoes of goods acquired by purchase or exchange in Zanzibar. During the southwest monsoon almost equally as large a number of dhows come from Madagascar and the South. Zanzibar will retain the dhow trade by reason of its location, and for this reason it will always be a place of transshipment, regardless of the growing importance of the coast towns.

EUROPEAN-EAST AFRICAN STEAMSHIP COMMUNICATIONS.

The Messageries Maritimes, German East Africa, and the Peninsular and Oriental lines—the last named by change at Aden to the British India Line—maintain regular services from Europe to Zanzibar and East Africa.

The Messageries Maritimes has a monthly service from Marseille to Mombasa and Zanzibar, the boats, both coming and going, calling at Port Said, Suez, and Jibuti. The German East Africa Line maintains a fortnightly service to Zanzibar and East Africa, the steamers, both incoming and going from Hamburg, calling at Flushing,

Dover, Lisbon, Tangier, Marseille, Naples, Port Said, Suez, Aden, Mombasa, Tanga, and Zanzibar. This route requires a few days more from Marseille. Transshipment of goods to and from the United States is usually made at Hamburg.

The Peninsular and Oriental steamers running between England and the eastern ports require transshipment at Aden. Regular communication is also maintained between Zanzibar and Bombay by two lines, and between the former place and the lesser coast towns, such as Lamu and Mogadischu, by various smaller steamers.

AMERICAN INTERESTS IN ZANZIBAR.

The Zanzibar Railroad Company, the Zanzibar Electric Light Company, and the Zanzibar Telephone Company are three American corporations doing business in Zanzibar. The Zanzibar Railroad Company has built and is operating a line of narrow-gage railroad from Zanzibar City to Bububu, 7 miles distant. It is proposed to extend this road the entire length of the island, which will then form one of the principal means of communication between Zanzibar City and the island of Pemba. The railroad starts at Palace square in the city and, after running through the Malindi district of the city and the Indian Bazaar, follows the west coast of the island to its northern terminus. The trains consist of a locomotive built in Pittsburgh, Pa., and two open cars and one chair car, built by the Brill Company, of Philadelphia. The chair-car fare from one end to the other is one rupee, about 33 cents. The fare on the open cars is considerably less. The road is well built with iron ties and good-sized rails, but the climatic conditions of Zanzibar reduce the life of an iron tie. Little grading was required for the railroad, since the highest point on the island is said to be only 300 feet above the sea level.

The Zanzibar Electric Light Company has a splendid plant. It is modern in every respect, and furnishes good light and service. The Sultan's palace as well as the houses of the Sultan's family and retainers are wired and lighted throughout. By means of a tower studded with incandescent lights, having an aggregate lighting capacity of 3,000 candlepower, the palace square is always brilliantly lighted. The streets are also well lighted by means of incandescent lights.

The telephone is steadily making its way into a great many business and official houses of Zanzibar, and bespeaks Zanzibar's progress in introducing modern inventions and installing all the facilities enjoyed by European and American towns of the same size.

Wireless communication was recently established between Zanzibar City and the island of Pemba. It is said that the messages are sent in Swahili, which is the language of the natives of Zanzibar and the parent of a great many native languages of the coast.

The principal imports from the United States are cotton goods (Merikani) and petroleum. There are, however, many articles of American manufacture exposed for sale here which do not figure in the custom-house reports as American, because they are furnished by European merchants, notably, watches, clocks, and sewing machines. The last-named article is extensively used and there seems to be a large demand.

Most of the cotton goods imported are reshipped to points on the mainland, and while the superiority of American cottons is acknowl-

edged by the tradesmen as well as the consumers, a large part of the cotton goods sold here for wearing apparel is German. The natives are very fond of bright and gaudy colors, which the German manufacturers study and supply accordingly. The fashions change here as well as in New York and Paris, and the manufacturer who wishes to keep the trade must study the desires of the natives closely. The men, as a rule, wear only the white bleached cottons.

CURRENCY OF THE COUNTRY.

The standard of currency in Zanzibar and in German and British East Africa is the silver rupee, worth about 32.4 cents. In Zanzibar the other coins in use are the one-half and one-fourth rupee pieces silver, and the pice, a copper coin. German East Africa has introduced the German rupee, which is in value about the same as the Zanzibar rupee, but is not current in Zanzibar or British East Africa.

British East Africa has recently made a numismatic experiment in the introduction of aluminum money. The silver rupee still remains as the standard of currency, but instead of the former divisions into pice and annas the fractional aluminum coin is a cent. There are one hundred cents to the rupee. The aluminum coins consist of 1, 5, and 10 cent pieces. The 10-cent piece is as large as the rupee. The aluminum coins do not have milled edges, but have round holes in the center. The newcomer at once notices the disadvantage of a coin as light in weight as an aluminum cent, but also the advantage to the native of the hole in the center so that the coins can be easily strung.

PRODUCTS OF ZANZIBAR AND PEMBA.

There is no place in the world where the clove tree thrives as well as in the islands of Zanzibar and Pemba. It is the principal product of the islands and together with copra and the ivory brought from the mainland cloves form the principal item of export. Since the abolition of slavery the clove plantations have been neglected for lack of labor. Most of the plantations were formerly in the hands of the Arabs and as the natives could be made to work the grass and weeds were kept out of the plantations, but since the natives can not be forced to work, it is hard to get any to work even for a fair remuneration. Various methods have been employed by the land owners to keep the plantations free from weeds, resorting even to the American disk harrow to cut up and clear the spaces between the trees of the rank vegetation, but so far with little success. This problem is still unsolved, but with the introduction of a machine able to weed the spaces between the trees, clove as well as cocoanut, a new era will come to the owner of the Zanzibar plantation.

The cocoanut palms are of two kinds—the Zanzibar, with its high trees and large green husked cocoanuts, the dried meat of which furnishes the copra of commerce, and the Pemba cocoanut palm, smaller in size, with a reddish husk, a very thin layer of meat, but entirely filled with milk, called madafu. This cocoanut furnishes the native drink both before and after fermentation. The mangoes are of a good quality and plentiful, but are inferior to the Bombay mango. Oranges and limes, pineapples and bananas, are plentiful, though the price realized for them in the market sometimes does not pay the cost of transportation.

EGYPT.

REVIEW OF COMMERCIAL AND OTHER CONDITIONS DURING LAST YEAR.

Consul-General Lewis M. Iddings, of Cairo, transmits the report of the British consul-general at that port covering the general conditions and trade of Egypt for last year, from which the following résumé has been compiled. In reducing the statistics quoted in the report to American currency, the Egyptian pound sterling has been estimated at \$5 instead of \$4.943, its present value:

The foreign trade of Egypt in 1907 consisted of imports amounting to \$130,603,885 and exports of \$140,065,925, an increase in the former of \$10,549,910 and in the latter of \$15,679,525 over those of the previous year. In dealing with the imports by countries the report gives only those countries from which Egypt imported over \$5,000,000 worth of goods, the others being included under "All other countries."

The following statement shows the imports into Egypt from the eight leading sources in 1906-7:

Countries.	1906.	1907.	Countries.	1906.	1907.
United Kingdom.....	\$89,283,275	\$12,464,235	British possessions....	\$5,852,180	\$6,499,440
France.....	13,712,795	16,834,450	Belgium.....	6,148,490	5,137,950
Turkey.....	15,206,185	14,865,640	All other countries...	18,667,506	21,735,965
Austria-Hungary.....	8,594,065	10,297,115			
Germany.....	6,588,875	6,961,905	Total.....	120,068,975	130,603,885
Italy.....	6,061,105	6,807,285			

CLASSIFICATION OF THE IMPORTS

The Egyptian customs divide the imports into fourteen classifications or groups, which does not permit of as particular analyses as might be desirable, all manufactures of cotton, wool, linen, jute, etc., being included in textiles. The following table shows the imports for 1907 compared with those of 1906, and also the share of the United Kingdom in this trade in the former year. In "All other articles" is included tobacco to the value of \$3,477,260 in 1906 and \$3,581,035 in 1907, which, by reason of being reexported, is not included in the regular classification:

Classes.	1906.	1907.	Imports from United Kingdom in 1907.
Textiles.....	\$30,504,175	\$0 34,185	\$19,070,265
Metals, and manufactures of.....	19,843,185	1 38,940	9,514,735
Coal and wood.....	15,138,885	1 34,940	7,572,750
Cereals, vegetables, and farinaceous foods.....	16,357,845	1 19,770	766,770
Animals and animal foodstuffs.....	5,869,630	34,195	345,170
Spirituuous liquors and oils.....	5,323,700	57,106	896,610
Stone, earth, glass, etc.....	3,159,665	71,970	598,485
Chemical products, medicines, and perfumery.....	3,173,106	70,325	545,100
Colonial wares and drugs.....	4,999,825	77,150	466,720
Hides and manufactured leather.....	1,884,085	23,120	657,485
Paper, books, and printed matter.....	1,785,515	36,630	347,490
Dyeing materials and colors.....	1,445,780	59,790	234,680
Animal products.....	423,930	32,260	152,865
All other articles.....	12,145,090	1 36,506	1,802,160
Total.....	120,068,975	130,603,885	42,464,235

FACTS AND FIGURES SHOWN BY A STUDY OF THE TRADE.

In a study of the imports for 1907 that of textiles is by far the most important category for British trade, as out of a total import of

\$15,840,440 worth of cotton fabrics the United Kingdom supplied \$13,801,840. The import of cotton piece goods was more seriously affected by the financial conditions in August, September, and October than any other article, the receipts being some \$1,435,000 less than for the same period of 1906.

In metal goods and manufactures, out of \$9,846,805 worth of wrought iron and steel and \$5,347,685 worth of machinery, \$4,314,635 of the former and \$2,835,965 of the latter were of British origin.

Petroleum imports increased 14,000 tons in quantity and \$175,000 in value, and is now almost entirely imported in bulk. Coal imports reached 1,576,000 tons, an increase of 12 per cent.

Receipts of wheat and flour were both lower than in 1906, while those of leaf tobacco increased about 2 per cent.

Of the total exports of \$140,065,925 in 1907, cotton and cotton seed amounted to \$130,764,555, leaving only \$9,301,370 for all other products. The details of these two products are given as follows: Cotton, \$117,989,220, of which \$61,358,920 went to the United Kingdom; cotton seed, \$12,775,335, of which \$11,133,965 went to the United Kingdom. The exports of cotton were about \$15,000,000 more than in 1906. There was a marked decrease in the exports of the new crop of cotton to the United States. Of the export trade the United States took about \$10,504,944 against \$7,660,900 in 1906. [The United States, in 1907, imported \$17,671,271 in value, at Egyptian prices, of cotton from that country as compared with \$8,247,690 in 1906.—B. of M.]

Cigarettes were exported to the amount of 1,084,674 pounds, against 1,300,727 pounds in 1906. The diminished exports to Germany more than account for the difference, the shrinkage being due to the German tariff law which went into effect in 1906.

COTTON GROWING—PROGRESS IN OTHER LINES.

There has been a general increase in the area planted in cotton in Egypt, but unfavorable climatic conditions affected the yield and the total will not exceed that for the previous year, which was the largest on record. The crop for 1907 is estimated to be between 650,000,000 and 700,000,000 pounds. The average yield per feddan (1.03 acres) is shown to have decreased from 551 pounds to 427 pounds during the last decade.

In 1907 the ministry of education had under its direct management or inspection 192,500 pupils, compared with 182,237 the previous year. It is estimated that 24 per cent of all the boys of school age are actually in attendance at school. A strong desire exists to have girls properly educated, and the government schools for girls are overflowing, the total number in attendance at 2,270 such schools being 14,972, an increase of 10 per cent over 1906.

The postal receipts were \$1,530,000, against \$1,185,000 in 1906, the net surplus being \$310,000, compared with \$260,000 in 1906. The number of parcels sent by post were 900,000, against 858,000 in the previous year. The savings-bank service was extended to 20 post-offices, making a total of 162 offices transacting savings-bank business. The number of depositors at the end of the year was 74,179.

By a census taken in April the population was shown to be approximately 11,192,000, an increase of 1,457,595, or 15 per cent, over the census of 1897. The census did not include about 80,000 nomad Arabs.

The Egyptian debt outstanding on December 31, 1907, amounted to \$437,240,000, involving a charge of \$16,620,000 on account of interest and sinking fund.

CONDITIONS IN THE SUDAN REGION.

Imports into the Sudan in 1907 amounted to \$6,072,945, an increase of \$1,685,770 over 1906. Among the various commodities imported, clothing, coal, machinery, and railway material show considerable increase. The exports were \$1,788,645, an increase of \$798,895 compared with the previous year. The principal item of export was gum, amounting to 20,393,620 pounds.

The area under cultivation in the Sudan was 1,423,971 acres, an increase of 415,329 acres over 1906. The Sudan Irrigation Service, in addition to its work connected with the various projects for increasing the water supply of Egypt, is also engaged in the proposed canalization of the Gezira, which will bring under cultivation large tracts of fertile soil for the growth of cereals and cotton. Steady progress has been made in the cadastral survey, which is of such great importance in an agricultural country like the Sudan. In Berber province 46,589 acres and in Halfa province 12,000 acres have been surveyed.

The bridging of the Blue Nile at Khartoum will facilitate the extension of the railway into the fertile district of the Gezira. The work is now well in hand and should be completed within two years.

There are in all 56 post and telegraph offices now open in the Sudan. The total mileage of telegraph lines is 4,422, an increase of 185 during the year.

The American Mission Station at Doleib, on the Sobat, continues to do useful work among the Shilluk tribe, and it is the intention of the society to extend the sphere of action in the near future. A small staff of American clergymen and ladies are in charge of the mission, in the several schools of which 140 boys receive instruction.

MOROCCO.

DEVELOPMENT OF COUNTRY WILL CREATE DEMAND FOR BEDSTEADS.

Vice-Consul-General Philip Bayard, writing from Tangier, describes the sleeping accommodations in Moroccan homes and the opportunity for modern American beds:

The native Moorish population does not use bedsteads of any kind, but sleep on carpets or mats laid on the floor. The greater part of the native Jewish population are accustomed to sleep in the same manner. The Europeans in Morocco (almost entirely confined to the coast towns) number about 10,000, to which may be added an equal number of Jews who dress and live as do Europeans.

Among these 20,000 Europeans and Jews there is, of course, a demand for metal bedsteads and mattresses. Some of the wealthy Moors buy bedsteads to place in their houses as ornaments (just as they fill their houses with clocks and mirrors), but prefer to sleep on the floor as their fathers did before them.

The penetration of civilization into Morocco has been exceedingly slow up to the present time, there being no railways and no made roads of any kind outside the vicinity of Tangier. It is probable, however, that in the near future roads and railways will be built

and works of harbor improvement undertaken. In fact a beginning has already been made in the latter direction.

This country is rich in natural resources and has one of the finest climates in the world. It is destined to support a large European population. Traveling representatives should speak Spanish, which is the language most in use among the Europeans and Jews in this country, and French is also very useful. The principal obstacles to the sale of American goods here, so far, have been the absence of any means of direct transportation between American and Moroccan ports, and the indifference of American exporters. The duty on imports of whatever nature is $12\frac{1}{2}$ per cent ad valorem. Metal bedsteads are imported from England, France, Germany, and Spain, but by far the greater part from England.

There are no new hotels, hospitals, or barracks in this vicinity. I inclose a list of the hospitals and the principal hotels, and also the list of furniture dealers and banks [obtainable from the Bureau of Manufactures].

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

BRAZIL.

DEVELOPMENT OF TRANSPORTATION SYSTEMS IN THE REPUBLIC.

Consul-General George E. Anderson, of Rio de Janeiro, advises that the Brazilian Government policy in pushing forward railway construction is being exemplified in other parts of the country than in the Sao Paulo-Goyaz system, of which a report has previously been made from his consulate-general. Mr. Anderson adds:

The progress is also being reflected in the policy of the several State governments. Recently a contract was signed by the government of the State of Minas Geraes for the extension of the Leopoldina Railway system from the present northern terminus at Santa Luzia north to Manhuassu and along the borders of the State of Espirito Santo to connect with the Leopoldina branch coming up farther west. This extension will not only open up a vast and fertile country about Manhuassu, but will afford rail and river connection with the port of Victoria for considerable traffic which now is handled by mule trains. The extension will be something over 200 miles.

The Federal Government has announced that it is concluding an arrangement with the Great Western Railway of Brazil for the construction of a line from Campina Grande to Batalha, in the State of Parahyba do Norte, in order to open up considerable country which has suffered greatly from droughts, but which will probably be amenable to modern "dry-culture" cultivation under the auspices of the Government experts employed to investigate possibilities in this line.

According to the report of the minister of public works, there were added to the railway mileage of Brazil last year the following extensions, in kilometers (kilometer=0.62 mile): Ceara Mirim, 11; Baturite extension, 20; Great Western, 50; Victoria-Minas, 64; Central of Brazil, 40; Goyaz, 30; Bauru-Corumba, 110; Sorocabana, 97; Sao Paulo Rio Grande, 131; C. Auxiliare Chemins, 148—a total of 701 kilometers. These 435 miles are scattered over the entire country, and represent general development rather than any particular project. The connecting of the Sorocabana and Sao Paulo and Rio Grande systems and the work on the railway to Corumba represent the most extended work now in hand.

ONE LINE SERVES AS BUSINESS INDICATOR.

The last report of the Leopoldina Railway Company is in some respects the best exposition of the situation of the railway business of Brazil. The Leopoldina is taken by European investors as the indicator of Brazilian business conditions. When the Leopoldina has a good year, Brazilian trade is good, and when it has a bad year Brazilian trade is not satisfactory. The Leopoldina operates under a number of Government guaranties, although it is privately owned

and managed, and it therefore also measures railway conditions from the standpoint of the Government roads and the private roads. The last annual report at hand shows that the Leopoldina operates 1,423 miles of road. During the year it carried a total of 2,481,340 passengers of all classes (there are three classes of passenger service in Brazil), for which the road received \$851,700, or about 34 cents per passenger. This rate includes suburban service, but not baggage, which is carried separately upon a separate charge in Brazil. The total amount of freight carried was 528,742 tons, for which the earnings were \$4,171,800, or about \$7.80 per ton. The receipts per train mile were \$314 and the expenses \$2.08. The consumption of fuel, wood, and Cardiff coal was 32.92 pounds per engine mile. The consumption of lubricants per 100 engine miles was 8.57 pounds.

The road has declared 4 per cent dividends on its stock for a number of years, carrying forward annually considerable sums for the upkeep and upbuilding of the road, for the equalization of dividends, and for sinking funds. Much of the road reverts to the Federal and State governments at the end of certain terms, although recent contracts for extensions are extending or doing away with such terms or reversions.

MEXICO.

LINE TO GUATEMALAN BORDER A LINK IN A GREAT PAN-AMERICAN.

Ambassador D. E. Thompson forwards from Mexico City a translation of an article from a Mexican journal describing the opening of the new Mexican Pan-American Railway, which says in part:

For more than four years the work of constructing the Pan-American Railway has been conducted with activity, and according to the purposes of those who initiated this enterprise it shall start from the United States and end in Panama. Work has been carried on with much effort, and the company has had the support of the Mexican Government and the good will of many capitalists, natives as well as foreigners. The original idea has been realized. It consisted in building a line from San Jeronimo on the Tehuantepec Railway to Tapachula in Chiapas. Later it will be extended to Port San Benito, the last one on our Pacific coast.

The inauguration was presided over by Governor Rabasa, of the State of Chiapas, and celebrated gaily and enthusiastically by the inhabitants of places on the line. Stations were decorated with taste. Tuesday was a day of a double meaning for the people of Chiapas, the celebration of the 5th of May and the inauguration of the new railway. The branch inaugurated starts from Huixtla and ends at Tapachula, an extension of 75 kilometers (kilometer = 0.62 mile). The total length of the line on Mexican territory is 491 kilometers. The line will pass, aside from other places, by Juchitan, Cerro Loco, Reforma, Aurora, Jalisco, Tonalá, Pijilapan, Mapastepec, Esquintla, Tapachula, and Port San Benito.

The Federal Government gave a subsidy to the constructing company of \$19,200 per mile, and, according to the railway law, the concession will last ninety-nine years, during which time the company will operate the line.

INTERNATIONAL IMPORTANCE—COFFEE HANDLING.

When the line was thought of all the financiers and men of business of this Republic considered it a great project and that its results would be splendid. Besides, President Roosevelt, in addressing the House of Representatives on a certain occasion, said: "The decision of the Mexican Government in granting the construction of a railway that will reach the Guatemalan frontier is of great importance and advantage to the commerce of Mexico and the United States."

The material used in the construction of this railway could not be better. The rails are made of steel, weighing 56 pounds for the first 125 miles, and 60 pounds for the rest. Bridges are also of steel and very high. Stations are

built with brick and cement, all of them according to the same plan, and presenting a pleasant and artistic aspect. The Pan-American Railway may be considered as one of the best in the Republic.

The Pan-American Railway crosses through regions in which coffee is the principal product, and the builders believe that within a short time the freight revenue from coffee alone will cover the cost of the construction of the road. The coffee produced on the zone traversed by the new railway already reaches a total of 40,000 tons per year. The freight rate from the Guatemalan frontier to San Jeronimo is to be 30 pesos (\$15 gold) per ton. At San Jeronimo coffee will be shipped over the Tehuantepec Railway, and from this point it will go to Coatzacoalcos to be finally shipped to Germany, the leading market for this national product.

The new rail line is very beneficial to the States of Oaxaca and Chiapas, as the products of these sections of Mexico will find an easier and cheaper outlet than they had before.

The Mexican Herald quotes J. M. Neeland, the general manager of the Pan-American Railway, as stating that extension work on the line would now be continued actively until connection with the Guatemala railway is completed. He is also resuming negotiations looking toward the beginning of construction on the new railroad which is to cross from the Gulf of Tehuantepec to the town of Campeche, connecting the Pan-American and the united railways of Yucatan.

CANADA.

PLANS OF NEW GRAND TRUNK LINE FOR CITY AND TOWN BUILDING.

Consul A. G. Seyfert, in writing from Collingwood that the crowning work of the first decade of the twentieth century for Canada will be the completion of the Dominion's second transcontinental railway, gives the following account of the progress of this enterprise:

From Winnipeg to Edmonton the prairie section of the Grand Trunk Pacific is practically completed. From Edmonton to the coast, a distance of 700 miles, through the mountains, it will take three years more to finish. The work is exceedingly difficult and expensive, much of it being between mountain passes and along the gorges of the Skeena River.

Experience of the past has led the railway company to deal with great care about the future town sites along the new road. The company proposes to control as much as possible, not only the location of the sites for the towns, but also the laying out and building of the future cities. On the prairie section nearly a hundred of these sites have been located, and all but a few on the north side of the railway. The main street of each town is to run at right angles with the track of the main line. All the lots are rectangular blocks. Parallel with the railway and adjoining the depot right of way, a long strip of land 100 feet wide has been reserved by the company at each town site for the purpose of planting trees and shrubs to beautify the town.

The company will also impose building restrictions in all the towns. Along the main street and on the avenues close to the station on a given area no buildings will be allowed to cost less than \$1,000. No shops, livery stables, or other noisy and disagreeable businesses will be allowed near the station. All such will be grouped in one block in a place convenient to the town.

PACIFIC HARBOR ADVANTAGES.

Prince Rupert, the Pacific terminal of the Grand Trunk Pacific, is an island. The town is to be built on the slope of a mountain, whose

grade begins a few hundred yards back from the shore line. It is alleged that for a harbor Prince Rupert has no equal on the Pacific coast. It is sheltered; its approaches are easy and free from all impediments of navigation. The harbor is 1 to 1½ miles wide and extends inland a distance of 10 miles. Prince Rupert is the most exclusive place on the coast. People who have no business there are not allowed to land. The future city is not yet ready to receive any one unless he is directly connected with the railway company. The government and the Grand Trunk Pacific own all the water front, and no arrangements are completed for placing any property on the market. It is, however, announced semi-officially that the sale will take place in September next.

The promoters of Prince Rupert expect the town to become a great factor in the Pacific commerce. They predict that in a quarter of a century it will be one of the leading seaports on the Pacific Ocean. Prince Rupert will be a day and a half nearer the Orient than Vancouver, and the steamship concern now allied to the Grand Trunk Railway System has announced that the moment the transcontinental line is completed it is ready to inaugurate a Prince Rupert-Hongkong steamship service across the Pacific.

KOREA.

AMERICAN LOCOMOTIVES, RAILS, AND ROLLING STOCK IN USE.

Consul-General Thomas Sammons, of Seoul, furnishes the following information concerning the railways of Korea and the amount of American railway stock in use there:

Railway material valued at \$2,192,779 was imported into Korea during 1907. Of this total it is estimated that the United States contributed direct \$750,000, and through oriental ports an additional amount. The Japanese Residency General Railway Bureau, which has charge of the steam transportation facilities of the Empire, places the importation of steel rails from the United States as follows: 1906, 50 miles; 1907, 100 miles; 1908, 100 miles. These are all 75-pound rails, and the total importations from the United States are placed at 32,448 tons. During 1907, 60 spans of iron girders were imported from the United States by the railway bureau, aggregating about 1,300 tons.

AMERICAN LOCOMOTIVES AND OTHER ROLLING STOCK.

The principal railway line in Korea extends from Fusan, on the south, to New Wiju, on the Yalu River, on the north. This line is of the standard American gage, and all the 107 locomotives now in use were imported from the United States. A tabulated statement may serve to illustrate the amount of rolling stock that has been imported from the United States:

Description.	Total in use.	American.
	<i>Number.</i>	<i>Number.</i>
Locomotives	107	107
Passenger cars	158	90
Freight cars	961	538

The heavier locomotives are of the six and eight wheel coupled-tender patterns. The lighter ones are of the six-wheel couple-tank variety.

PASSENGER RATES AND PASSENGER SERVICE.

The third-class passenger fares per mile are graded as follows: Up to 50 miles, $1\frac{1}{2}$ cents; 50 to 100 miles, $1\frac{1}{4}$ cents; 100 to 200 miles, 1 cent; 201 to 300 miles, $\frac{3}{4}$ cent; 301 miles and upwards, $\frac{1}{2}$ cent.

Passenger fares are applied to each section according to these rates, but the second and first class rates are 75 and 150 per cent, respectively, greater than the third-class charges. For example:

Stations.	First class.	Second class.	Third class.
Fusan to Seoul	\$7.35	\$5.24	\$2.94
Seoul to New Wiju	7.97	5.58	3.19
Fusan to New Wiju.....	11.34	7.94	4.53

Commutation tickets are issued and parties of over 20 are carried at 50 per cent discount, and round-trip tickets are reduced 20 per cent.

Beginning with April 1, 1908, on which date Tokyo time was discarded by the Japanese protectorate and standard time adopted, through passenger trains are being operated on the Fusan-New Wiju line. These through trains traverse the entire length of the peninsula, approximately 600 miles, in twenty-six and one-half hours. Heretofore three days were required, the journey being broken at night at Seoul and Pyeng Yang. The through trains are provided with dining cars (a la carte service), first and second class coaches, guide conductors, and train boys. Sleeping cars will also be added to these trains in the near future.

Heretofore the ferry steamers plying between the end of the Korean peninsula at Fusan and Shimonosaki and Moji, in Japan, have left the latter ports and Fusan, the southern terminus of the Seoul-Fusan line, at night and connected with the rail lines each morning at both Fusan, for Korean points, and Shimonosaki and Moji for points north, east, and south in Japan. With the new night trains in Korea a double ferry steamer service has been inaugurated.

TO CHINA AND EUROPE VIA KOREA AND MANCHURIA.

Americans were the first to build railways in Korea, starting with the Seoul-Chemulpo line. American material was then introduced, and the American standard gage was adopted. With the standard gage on the Japanese-controlled lines in southern Manchuria and also on the Chinese railway lines, a private car may in the future be transported throughout the principal sections of Korea and China. With the Antung-Mukden military line replaced with the standard gage, and with the grades and curves reduced, a through service from Fusan to Peking and Hankow on the Yangtze River will be possible. Also, with an improved service from Antung to Mukden, the quickest route from Japan and Korea to Chinese interior points and to Europe via the Trans-Siberian route will be over the Korean-Manchurian lines.

At Seoul an electric street-railway service, under American management, has been in operation for several years. A railway to connect Gensan (Wunsan) on the east coast of Korea with either Seoul or Pyeng Yang is projected.

CHINA.**LOAN FOR BUILDING THE SHANGHAI-HANGCHOW-NINGPO RAILWAY.**

The following information is derived from a newspaper extract transmitted by Consul-General Charles Denby, of Shanghai, covering the terms of an agreement between the Chinese Government and the British-Chinese Corporation by which the latter is to raise a loan to be devoted to the construction of the Shanghai-Hangchow-Ningpo Railway:

The terminus of the line will be connected with that of the Shanghai-Nanking Railway in Shanghai or its vicinity, whence it will run to Hangchow and Ningpo, via Fungchingtsun, Klashingfu, Hushu, Hangchowfu, and Kiangkau. The road is to be completed within three years.

The amount of the loan to be raised is £1,500,000 (\$7,299,750), the interest on which will be 5 per cent per annum, to be paid by the Chinese Government semi-annually. The loan will be applied to the building of the line alone, including payment for locomotives, carriages, and all necessary equipment, and the running expenses before the completion of the line. Money to be used in buying land and paying interest must be provided by the Chinese Government from other sources.

During the construction of the railway the corporation shall be allowed to act as managers for the provision of all materials which must be procured in foreign countries for the railway. The corporation shall purchase all materials required in the open market at the lowest price obtainable, but it is understood that all such materials shall be good and of satisfactory quality. If English-made materials are equal in quality and price with those of other countries, all the necessary materials shall be purchased in England. If any Chinese products or Chinese-made materials are equal in price and quality to those produced or manufactured in foreign countries, such products or materials shall be purchased in China in order to encourage Chinese industry.

It is stipulated that several sections of the line shall be constructed by the Chinese and, therefore, the work of prospecting and surveying will only be undertaken with the permission of the board of posts and communications. [The full agreement is on file in the Bureau of Manufactures.]

COMPLETION OF THE SHANGHAI-NANKING RAILWAY.

Consul-General Denby also advises that the Shanghai-Nanking Railway, concerning which he recently gave an account of an initial trip, has now been completed, adding:

The formal opening of the line was celebrated on March 28 by an excursion from Shanghai to Nanking. It was opened to business traffic during April. The line, 193 miles in length, was traversed in five hours and thirty-seven minutes. Nanking, Chinkiang, and the intervening markets are thus put into easy communication with Shanghai, and the effect will be to improve trade. When the Tientsin-Pukow (opposite Nanking) Railway is completed Shanghai will be in direct rail communication with North China, and it will be possible to reach Tientsin and Peking in about forty hours. To go to Peking by rail at present it is necessary to make a three days' journey by river steamer to Hankow and there to proceed by the Peking-Hankow Railroad, a journey of thirty hours additional.

NEW MANCHURIAN LINE.**ENGINEERS FINISH PLANS FOR KIRIN-KUANGCHENG TZU RAILROAD.**

Consul-General Willard D. Straight forwards from Mukden the following translation of an article appearing in the local Chino-Japanese journal regarding the proposed railway between Kirin and

Kuangchengtzu (Chang-chun). The facts, he is informed, are correct:

The engineers appointed to survey the Changchun and Kirin railway route, namely, Taot'ai Lo Kuo-jui and Mr. Yu Chenliang (Japanese), having finished their survey, arrived back in Mukden a few days ago and are at present engaged in drawing plans for the construction of the line. These plans, we hear, are almost finished, and on their completion the two engineers will confer as to the details of the scheme, which will then be submitted to the Wai Wu Pu and the Japanese minister at Peking, so that they may be in a position to sign an agreement for the undertaking.

According to our information, the following is roughly the line of the route to be taken: Starting from the north wall of Changchun, the line will pass to the south of Shihlipu, Matoushan, and Chuanyuanhou, and reach a point 25 English miles south of the present main road. In the neighborhood of the Tashui River it will cross the main road at right angles and will then sweep round the Laoyehling to the north, and, passing through Santaolingtzu and Erhtaolingtzu, be brought to the northern gate of Kirin city, whence it will be extended to Lienhuapao.

The line will be 75 English miles in length, and the cost of construction approximately \$7,000,000, or that many yen (50 cents), as the text is uncertain. The station outside the northern gate will be for passengers only, and the station at Lienhuapao for the discharge and loading of cargo. We have further heard that after the contract has been signed at Peking, a further survey will be necessary in the autumn of this year before the work of construction is commenced; this will take two or three months, so that in all probability work will not be begun on the line until the spring of 1909. It will take about one year to finish the construction.

ARABIA.

HEDJAS ROUTE OPENED TO MEDINA—THE MECCA EXTENSION.

The following telegram, taken from Levantine newspapers, by Consul-General G. Bie Ravndal, of Beirut, has been sent by the Ottoman Imperial Chancellery to all the provinces of Turkey:

As already announced in the newspapers of Constantinople, the Hedjaz Railway will reach the town of Medina in the month of June. On September 1, the anniversary of the accession to the throne of the Sultan, will take place the inauguration of the mosque near the station at Medina, of the water supply from Ain Elzerk, and of the railway line. The railway, as far as completed, has a total length of 1,500 kilometers (932 miles), including the branch to Haifa; the stations, being all built of stone, and the workshops all constructed in less than six years.

All the work done up to the present has involved an expenditure of 3,500,000 Turkish lire (\$15,400,000). In order to meet the expenses necessary to commence the work between the two cities of Medina and Mecca, it is necessary to order a large quantity of material in Europe. As far as Medina all the material is paid for, but for the continuation of the line to Mecca only 10 per cent has been paid.

BRITISH INDIA.

STATISTICS COVERING THE OPERATIONS ON THE VARIOUS LINES.

Consul-General William H. Michael, of Calcutta, reports that at the close of 1906 there were 29,097 miles of railway in British India, on which \$1,264,024,333 had been expended, and which were yielding annually \$73,699,097 net. During the year 1906, 271,063,000 passengers were carried and 58,849,000 tons of freight were hauled. In 1907 21,850 miles of railway were owned by the state, 3,471 miles by native states, and 3,982 miles by private companies. In 1906 the railway employees numbered 479,284, of whom 6,850 were Europeans, 9,326 Eurasians, and 463,108 Indians.

UNITED KINGDOM.

OPERATING RETURNS OF BRITISH LINES FOR LAST YEAR.

Consul-General Robert J. Wynne, of London, reports that figures concerning the railways of the United Kingdom are printed in a White paper recently issued by the British Board of Trade. A summary for 1907 follows:

The authorized capital was \$6,784,767,237, of which \$6,300,277,963 represented paid up capital. The net receipts for 1907 amounted to \$218,379,821, being the difference between the following totals:

Gross receipts:		Working expenditure:	
Passengers and mails---	\$248,050,371	Maintenance of ways, works, etc. -----	\$54,821,122
Goods traffic -----	297,815,200	Locomotive power -----	104,873,075
Steamboats, canals, harbors, etc. -----	24,512,560	Repairs and renewals of rolling stock -----	30,323,161
Miscellaneous -----	21,086,544	Traffic expenses -----	106,235,195
		Rates and taxes -----	23,665,789
		Miscellaneous -----	53,166,512
Total gross receipts---		Total expenditures---	
591,464,675		373,084,854	

The length of the lines was 23,101 miles, over which was transported 407,710,000 tons of minerals and 108,261,000 tons of merchandise. The passengers conveyed numbered 1,260,117,000, of which 33,355,000 were first-class, 36,697,000 second-class, 1,189,349,000 third-class, and 716,000 were season passengers.

The paid-up capital has advanced since 1905 by \$107,165,513, and amounted to \$6,300,277,963 in 1907, or roughly, \$5 for every passenger carried. Passengers increased in the same period by 60,431,858. In the third class the increase was 79,324,648, but there were 3,059,492 fewer first-class and 15,886,258 fewer second-class passengers.

SWITZERLAND.

INCREASE IN RECEIPTS, EXPENDITURES, AND NET PROFITS.

Consul-General S. C. McFarland, of St. Gall, furnishes the following information concerning the financial operation of the Swiss Government railways in 1907:

The annual report of the Swiss Government Railway Directory for 1907, covering the operation of about 1,554 miles of government-owned, broad-gage, main-line railroads (about 560 miles of track, including narrow-gage, cog, and wire-rope enterprises, being still under corporate or private ownership but subject to governmental control), gives the following figures: Total receipts, \$27,586,453; total expenditures, \$18,614,924; operating profit, \$8,971,529.

Corresponding figures for 1906 were \$25,637,651, \$16,869,725, and \$8,767,926. The report congratulates the country upon the favorable showing made, considering the excellent, cheap, and nondiscriminating character of the passenger and freight service rendered, but anticipates a dull current year, owing somewhat to the effect of the American financial disturbance upon Swiss industries. The report emphasizes the steady growth of operating expenses, accounted for by higher wages and shorter hours for employees and the increased cost of supplies, notably fuel and metal. Thirty-seven extensions or connections were under course of construction in 1907, involving mountain tunneling of 33 miles, and the construction of bridges, including those only of 30 feet or more in length, 4½ miles.

DENMARK.

CONSTRUCTION OF VARIOUS STATE AND PRIVATE LINES SANCTIONED.

A London journal publishes a report from Copenhagen that the Folkething had definitely adopted the bill, already passed by the Landsting, providing for the construction of new Danish railways.

The latter comprise the doubling of the line through Fuenen, five state railways, including a line from Copenhagen to Kjoerge, which will considerably shorten the international route via Gjedser, and 51 private railways, concessions for four of which may be granted annually. The expenditure to be incurred by the state treasury is estimated at 56,000,000 crowns (about \$15,000,000), spread over 16 years.

During the final debate on the bill the minister of public works announced that a bill would be introduced next session providing for the building of a bridge over the Masnedsund, between Zealand and Falster, to take the place of the present steam ferry, whereby the international route via Gjedser would be still further improved. The cost of the bridge is estimated at 19,000,000 crowns (about \$5,000,000).

RAILWAY BRAKE SHOES.

MODERN AMERICAN ARTICLE NEEDED ON BRITISH RAILWAYS.

Mr. William Whittam, jr., formerly a special agent of the Department of Commerce and Labor, offers suggestions for the introduction into Great Britain of the quickly exchanged brake shoes made in the United States. As to their usefulness he writes:

Railroads in the United States have neglected no opportunity to secure every means for economizing in rolling stock. The good and effective work done by their Master Car Builders' Association can not be overlooked. With active committees that watch closely development of every kind, supported by the manufacturers of railway material, who specialize in every direction, they have largely succeeded in bringing about a much-desired reduction in the annual expenditures of railroads. Concentration of efforts have established standards for material.

The ever-increasing speeds and loads on railways necessitated a thorough investigation of the brake-shoe equipment, for which millions of dollars are annually expended. In this feature a splendid system has been developed, its simplicity showing at a glance its advantages, of which I recently witnessed a striking illustration. An engineer on one of the largest railways in the States was just about ready to pull out of the yard. Before doing so, he once more made an examination of his engine to make certain that everything was in running order. Happening to glance at one of the brake shoes on the drivers of his locomotive and seeing that it was nearly worn to the limit, he decided to replace it by a new one. Although there was scarcely a minute's time to spare, he accomplished the change in even half the time. This fact, and a scrutinizing of the worn-out brake shoe he threw away, which was a mere shell, aroused my interest in the brake-shoe industry.

OUTPUT AND UTILITY OF THE SHOES.

Obtaining an introduction to the manufacturers of this material, I found that the manufacture of their product, as well as of their means of providing railways with brake shoes especially suited for the conditions of the various services, was of considerable magnitude. The output of one of the manufacturing plants was close to 125 tons per day. A careful study of the iron used in their product is made in a well-equipped laboratory. There are special departments which cover certain requirements in the production of these shoes and which have minute attention in order to furnish the railroads with the best brake-shoe material at the lowest cost, which is fully appreciated and recognized among American railroad interests.

The time taken in replacing a worn-out brake shoe in the United States is only a part of a minute, while the changing of a brake in Europe takes many minutes. Altogether, there would seem to be an excellent opening for American enterprise in this direction. It is clear that a wonderful opportunity exists in Great Britain and Europe for the export of the American type of brake shoe. In Europe the solid shoe is common, yet this type became practically obsolete in the United States many years ago. With this solid shoe a waste of 15 to 20 pounds of material occurs, against a "scrapping" of but 6 to 7 pounds on the American plan.

BRITISH TRAVELING INFORMATION.

RAILWAYS POST SCALE MAPS AT STATIONS WHICH DESCRIBE THE COUNTRY.

Consul J. Perry Worden, writing from Bristol, describes a new form of railway advertising to aid travelers in England:

It has long been the custom of English railways to display in the stations and inside of the railway coaches a large and varied selection of pictures, usually photographs, showing the scenic attractions of their respective lines. So acceptable have these proved to the public, and to such an extent has it undoubtedly contributed to increased travel, that the Midland Railway of England has recently introduced still another feature, designed to inform the traveler and to assist him in determining his routes.

Fixed in frames in the booking hall or passage where the ticket offices are located, or in some equally convenient place, are large ordnance maps of the neighboring country, drawn to the scale of 1 inch to the mile. Each map is composed of 1-inch ordnance sheets, the entire area covered being 24 miles from north to south and 36 miles from east to west, thus giving some 864 square miles of territory in detail. The maps are of the contour series, so that it is quite possible for intelligent travelers to locate the hills and dales on the route. In most cases there is a note on the map indicating the exact height above sea level (ordnance datum) of the railway tracts at the particular stations.

These maps are attracting much attention, since they are not only serviceable to persons traveling by the railways, but are often of equal value to cyclists and even pedestrians. Cyclists, in particular, frequently get their data for a trip from these new advertising maps, often proceeding part of the way on their bicycles and continuing or returning by the railway trains.

OCEAN STEAMSHIP LINES.

FRANCE.

FACTS CONCERNING AN AMERICAN STEAMSHIP LINE TO FRANCE.

In reply to an inquiry from a leading society in Boston as to the prospects for a line of steamers between that city and France, Consul-General Robert P. Skinner, of Marseille, writes as follows:

The total weight of merchandise imported into and exported from France in 1906, was as follows, in metric tons:

Principal ports.	Imports.	Exports.	Principal ports.	Imports.	Exports.
Marseille.....	3,264,246	2,316,420	Bordeaux.....	1,695,631	789,280
Rouen.....	3,045,438	275,584	All other.....	21,883,840	9,812,566
Dunkirk.....	2,338,960	573,353			
Havre.....	2,127,642	794,373	Total.....	34,355,257	14,561,576

The French customs furnish the following figures relative to the weight and value of merchandise imported from and exported to the United States for the last three years: [The values are mere estimates, said by Consul-General Mason to be of no statistical value, and vary widely from the official figures of the United States.—Bureau of Manufactures.]

Year.	Weight of merchandise.			Value of merchandise.		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
	<i>Metric tons.</i>	<i>Metric tons.</i>	<i>Metric tons.</i>			
1905.....	998,683	53,998	1,052,676	\$98,868,882	\$56,909,138	\$155,778,020
1906.....	1,131,278	66,425	1,197,703	113,463,156	77,602,598	191,065,754
1907.....	1,096,436	80,361	1,176,797	122,054,551	77,593,141	199,647,692

FRANCO-AMERICAN STEAMSHIP SERVICE.

For the handling of Franco-American traffic, of which the portion exported goes very largely to New York, lines of steamers now exist, and provide regular sailings from Marseille, Havre, and Bordeaux. The Havre line (Compagnie Générale Transatlantique) receives a heavy postal subsidy, and depends upon this and upon the passenger traffic, as the freight-carrying capacity of the fast steamers is not great. The other lines operating between French and American ports are chiefly freight carriers, but such as are under the French flag also receive premiums from the state, and the Fabre line from Marseille is maintained, as far as west-bound traffic is concerned, by emigration to the United States.

In 1906 an all-American line was projected between Marseille and New York, and one steamer was purchased and put into commission with the hope that the frequently asserted inability of the American flag to compete, without artificial aid, would be this time controverted. After three round trips had been made, and no additional capital in the meantime having come forward to purchase additional ships, this steamer was withdrawn, and the experiment abandoned. During a long experience in Marseille, I know of but one small sailing ship under the American flag that has visited this port, with the exception noted.

It costs a great deal more to operate American than European ships, and were this otherwise the capital ventured in a line of modest

proportions might well be intimidated by the completely organized foreign enterprises now handling the world's traffic. Steamers are operated in great fleets, with ports of call visited at regular intervals, and the through bill of lading is coming into more and more general use. The increasing number of German vessels in Marseille illustrates what is being done. In 1895 German shipping tonnage entered and cleared at Marseille was only 129,698 tons; it had increased to 170,853 tons by 1900; in 1906 it amounted to 941,192 tons, representing a network of lines in every direction owned by the two great German companies or their subsidiaries. In 1906 the total shipping tonnage of Marseille was 15,930,939 tons, and it is probable that not more than 2,000,000 tons were represented by tramp ships, and many of these were time chartered by firms who thus improvised lines of their own.

American shipowners can not afford to feel their way toward success on a small scale, and still less can they afford to do so under existing conditions. We are unlikely to see a great American commercial fleet in European waters until the standard American wage has been reduced to the European level or until we find some means which will make up the difference, backed up by sufficient guaranty that this means can be depended on as long as it shall be needed.

The geographical situation of the United States compels most American navigation lines to depend upon traffic between the port of departure and port of arrival, and when any great difference in the bulk of merchandise imported and exported exists freight rates must be averaged to get back operating cost. European sea powers are much more favorably located in this respect than the United States. The great English lines to the Orient, for example, sail from London, and call at Marseille, sometimes Naples, Port Said, Aden, and half a dozen or more East Indian and oriental ports, discharging and receiving freight, thus managing to keep the vessels' holds full more or less all the time.

NANTES-AMERICAN TRADE.

DISAPPEARANCE OF THE AMERICAN FLAG FROM THE LOIRE.

Consul Louis Goldschmid writes as follows concerning the decadence of American shipping in the trade of Nantes:

Since 1901 not an American vessel has entered this French port. It is painful to consider the lack of American shipping—the complete absence of the American flag from the Loire. Efforts have been made from time to time by local merchants and shipowners to revive some of the traffic of the past, but American shipping companies have nearly always shown indifference in the matter. Whatever American cargo arrives here comes here in French or other foreign bottoms. There are several reasons for the changes that have taken place. Nantes was formerly one of the principal ports doing business with the United States and before the advent of steamships had a steady trade therewith. This trade has in a measure gone elsewhere, but Nantes (including St. Nazaire) continues to be a great port of imports and exports for the West Indies and South and Central America.

SWEDEN.**DIRECT LINE BETWEEN GOTHENBURG AND NEW YORK.**

Consul William Henry Robertson, of Gothenburg, advises that although the question of organizing a direct line of freight and passenger steamers of a modern type between Gothenburg and New York is one that has received earnest consideration there from time to time in the past, special attention has been given to it in the local press and otherwise during the last few weeks. The consul continues:

A Swedish shipowner has laid a plan before the Swedish Government for a subsidy of 7,000,000 kroner (\$1,876,000), to be repaid in installments beginning five years hence, and a subsidy of 1,000,000 kroner (\$268,000) per year for carrying the mails. From the standpoint of United States trade, it holds out splendid possibilities and advantages. Both our exporters and importers know only too well the great expenses and delays incident to the transshipment of all goods in the Swedish-American trade at English, German, Danish, or Norwegian ports. Many an American exporter, instead of wasting a month or six weeks at a summer resort, could for practically the same outlay take a delightful sea trip to an interesting country like Sweden, study the possibilities of his business there, establish valuable agencies, and return within about the same time. During the five months that I have been in charge of this consulate, at the second largest city in Sweden and decidedly the largest export center, I have never even heard of an American business man being in town.

TRINIDAD.**STATISTICS SHOW GROWTH OF TRAFFIC AT PORT OF SPAIN.**

In reporting that there was a substantial increase in the shipping at Port of Spain, Trinidad, during the year 1907, Consul William W. Handley writes:

The total number of vessels arriving amounted to 2,461, being 281 more than during the previous year. The tonnage reached 1,225,994 tons, an increase of 262,560 tons over 1906. Among the 626 merchant steamships entered during that period, 334 flew the British flag, 61 Dutch, 48 French, 35 German, 22 Norwegian, 94 Venezuelan, and only 7 American, and of these 7 steamers flying our flag 5 were colliers of the Atlantic fleet. Among the 1,798 sailing vessels that entered this port, 1,416 were small Venezuelan sloops that carry on an extensive trade between this island and Venezuela. There were also 338 British and 13 American sailing vessels entered here. The latter bring out lumber, and generally secure a return cargo of coconuts or asphalt.

Year after year this port increases in importance as a rendezvous for foreign war ships, due principally to the tranquillity of the waters of the Gulf of Paria as a coaling and cable station, as a center of steamship communication, and as possessing a floating dock.

CHILE.**BETTER STEAMSHIP SERVICE PLANNED TO VALPARAISO.**

Vice-Consul Stuart K. Lupton, of Valparaiso, reports that the two steamship companies with headquarters at Valparaiso, the Pacific Steam Navigation Company and the South American Steamship Company, are contemplating the idea of a twelve-day service between Valparaiso and Panama, adding:

The plan is to send the Atlantic vessels of the Pacific Company, whose itinerary has been between English ports and Valparaiso, on to Callao, with a possible stop at Iquique. At Callao mails and passengers will be transferred to one of the regular west coast liners, which will call at Payta, Peru, and at Puna, the port for Guayaquil, only. This will avoid the delay incident upon calling at some twenty small ports on the coast of Chile and Peru. If there is no hitch in the programme, the new service will begin some time in September or October.

MEXICO.**SMALL NUMBER OF AMERICAN VESSELS ARRIVING AT TAMPICO.**

Consul P. Merrill Griffith reports that of the 522 vessels arriving at the Mexican port of Tampico during 1907 only 23 were American. English ships numbered 176, Mexican 115, Norwegian 95, German 53, Cuban 31, Danish 13, and French 12. The consul adds that the number of American vessels reported represents only a small percentage of the amount of American tonnage, as a great many vessels flying the flags of many nations and entering at Tampico call at ports of the United States.

JAPAN.**TOTAL EXPENDITURE FOR THE EMPIRE'S SHIPPING SUBSIDIES.**

Consul Hunter Sharp forwards from Kobe Japanese newspaper extracts referring to the Empire's shipping subsidies, from which the following is taken:

At a recent meeting of the Oriental Society at Tokyo the manager of the Japan Shipowners' Association stated that for the current year the subsidy absorbs 60 per cent of the estimated revenue from the business tax and 47 per cent of the income tax. The total expenditure is \$6,595,000 gold, and a like amount is included in the present budget.

CHINA.**MEASURING CARGO AT SHANGHAI FOR EUROPE.**

Consul-General Charles Denby reports that the shippers of Shanghai have been notified by the representatives of twelve steamship companies at that port that in future the measuring of cargo to be shipped on their vessels for Europe shall be done by a sworn measurer who has arrived from Europe for that purpose. This movement is to place the measuring of such cargo upon a more satisfactory basis than has hitherto existed.

BRAZILIAN DRY DOCK.

WORK COMMENCING ON LARGE SHIP REPAIR STATION AT RIO DE JANEIRO.

Consul-General George E. Anderson writes, from Rio de Janeiro, that as a part of its new naval policy, which has taken the form of three of the largest battle ships now building, the Federal Government in Brazil has made arrangements for the construction of the largest dry dock in South America, a description of which follows:

This dock is to be available for merchant vessels as well as war ships and is a most important step in maritime development in South America. The dock is to be secured by a reconstruction of the Mortona dock, owned by the Government of Brazil and used until recently by the Lloyd Brasileiro for its merchant ships. The old dock is to be widened and deepened much along its present lines on the water front of Rio de Janeiro adjoining the new commercial wharves or docks. By the plans finally adopted 100,000 cubic meters of rock will be excavated from the bottom, sides, and land end until the dock will have a total inside length great enough to admit a vessel 250 meters, or about 815 feet. It is to be divided into three sections—one 150 meters, one 70 meters, and the third 30 meters, so that 3 vessels of proper size can be handled at the same time.

The dock is to be fitted with all the latest appliances, both with respect to naval and merchant vessel needs. Inasmuch as it will afford necessary conveniences for the docking and repair of vessels up to 15,000 to 16,000 tons, it is a distinct advancement in South American shipping. The work on the dock will be under Government auspices. It is to be commenced at once and will be completed in two years. The largest merchant vessels now making regular runs to this port is less than 12,000 gross tonnage, hence the dock is well ahead of commercial requirements.

BRITISH PASSENGER TRAFFIC.

DECREASE FROM SCOTLAND—INCREASE FROM THE KINGDOM.

Consul J. N. McCunn, of Glasgow, furnishes the following information concerning the passenger traffic from Glasgow and from the United Kingdom to the United States and other foreign countries outside of Europe and to British possessions during the year 1907:

The number of passengers which left the Clyde (Glasgow) in 1907 for countries outside of Europe was 69,684, of which 40,756 left for the United States (21,737 British and 19,019 foreigners) and 28,928 for British possessions (26,400 British and 2,528 foreigners).

Under the head of foreign nationalities destined for the United States are Russians (including Poles), Austrians, Macedonians, Scandinavians, Italians, Germans, Dutch, Belgians, Finlanders, and also Americans (principally tourists) returning.

Compared with 1906, when 45,443 persons left Glasgow for the United States, the 1907 figures reveal a marked falling off, although it was generally anticipated at the beginning of the year that the previous year's total would be exceeded. The reduction, which com-

prises British and foreign passengers of all classes, a natural effect of the trade depression in the United States, has continued up to the present time (May 6), and it may be safely estimated, unless some remarkable circumstance not now apparent arises to increase the traffic, that 1908 will show the lowest figures in the emigration trade for many years, especially in the third-class business.

TRAFFIC FROM THE UNITED KINGDOM.

The following table shows the number and nationality of passengers who left the United Kingdom in 1907 and their destination:

Destination.	Nationality.				Total.
	English.	Scotch.	Irish.	Foreign.	
United States.....	91,552	24,306	54,314	196,284	366,516
Other foreign countries outside of Europe.....	10,841	1,478	486	4,918	17,608
Total to foreign countries.....	102,393	25,889	54,750	201,202	384,184
British possessions:					
North America.....	110,287	33,376	7,508	34,640	185,806
Australasia.....	20,738	3,153	886	302	25,079
South Africa.....	17,899	2,840	679	2,338	23,262
All other.....	14,178	1,127	293	771	16,369
Total British possessions.....	162,602	40,502	9,361	38,051	250,516
Grand total.....	264,995	66,341	64,111	239,253	634,700

The number of passengers which left the United Kingdom in 1906 was as follows: For the United States, 338,612; for other foreign countries outside of Europe, 15,768; for British possessions, 203,357; total, 557,737, showing an increase in 1907 of 76,963.

GOOD ROADS IN BRAZIL.

THE GOVERNMENT AID STIMULATES CONSTRUCTION WORK.

Consul-General George E. Anderson, of Rio de Janeiro, advises that in line with the policy of the Federal Government and the several State governments in Brazil to push the construction of railways in the several portions of the country there is also to be noted the encouragement of every other means of communication, among them the construction of good roads. The consul-general states further:

With the construction of good roads goes the encouragement of the establishing of automobile services to supplement or take the place of railroad service. The annual budget law of the Federal Government in Brazil provides that the President of the Republic is authorized—

To grant a subsidy at the rate of 4,000 milreis (milreis = 30 cents) per kilometer (0.62 mile) to companies or to private individuals who build roads and organize a service of automobiles for the carrying of passengers or merchandise when such roads link up two States or traverse only one. The same subsidy shall be granted to States or municipalities who organize the same service, and in both cases the following conditions shall be observed:

(1) The roads shall be built in accordance with technical regulations which shall be issued for this service and must serve one or more locality or localities of economic or administrative importance in accordance with the decision of the Federal Government when built by companies or private individuals.

(2) The subsidy shall only be paid when the Government Inspector (who shall be paid by the interested parties by means of half-yearly deposits in the

Federal treasury) declares that the road or sections of roads which have been completed are in accordance with the aforesaid technical regulations.

(3) The subsidy shall only be paid when the roads are completed from start to finish or when at least 120 kilometers have been completed in accordance with the aforesaid technical regulations.

(4) Zone privileges shall not be included among the favors granted these automobile lines. The concessionaires shall only have the right of using and the exclusive enjoyment of the roads which they have built and the land which is indispensable for the up-keep of the same.

The plan of communication thus outlined in the law refers particularly to a number of schemes in different portions of the country, notably in Rio Grande do Sul and in the north of Minas Geraes. The subsidy amounts to about \$1,200 per mile. As representing the cost of the improved highways the importance of this sum applies chiefly to great stretches of country where little work upon practical roads would be required.

PRACTICAL RESULTS—EXCELLENT OLD HIGHWAYS.

Assuming that a freight and passenger service of automobiles over thinly-settled country will be practicable and economical, it is estimated here that the proposed aid of the Government will be sufficient to guarantee a reasonable profit upon the undertaking. The proposed regulations provide for the reversion of the new roads to the Government at the end of certain periods.

It is a notable fact that all over Brazil there are public enterprises for the construction of improved roads or the improvement of old roads as a necessary adjunct to agricultural and other development of the country. It should be added that in its earlier days Brazil possessed some of the finest roadways in the world, the old Government highways before the day of railways comparing favorably with the best government highways of Europe of the same period. Railway development in Brazil is of comparatively recent date, and some statesmen and publicists of the country regard transportation and communication by highways as not only more practical than it is regarded in the United States, but, in a way at least, as the more natural means, even covering long distances as they exist in Brazil.

Several automobile roads are in the course of construction in Rio Grande do Sul and elsewhere under the direction and control of the several State governments, and it is probable the subsidy offered by the Federal Government of Brazil will first be awarded in connection with such State enterprises.

PUBLIC WORKS IN MADAGASCAR.

PROPOSED NAVIGATION, IRRIGATION, AND RAILWAY EXTENSIONS.

The following information concerning public improvements in Madagascar is furnished by Consul James G. Carter, of Tamatave:

A decree has been issued to make navigable the southern portion of the Ikopa, the lower (northern) Ikopa flowing through the Imeriwa district, in which Tananariva, the capital, is situated and which is the interior terminus of the government railway from that place to the coast, at Tamatave. The benefit which will accrue from making this section of the Ikopa navigable will be its connection with the railway at Tananariva, thereby enabling the natives to bring down in pirogues their produce, chiefly rice, from the Isotry district

and at the same time supplying a flow of water sufficient for the irrigation of the rice fields south of Tananariva.

Twenty-two miles of new line have been opened to traffic between Anjiro and Moromanga, on the railway from Tananariva to Tamatave. The unfinished distance between Anjiro and Tananariva, 49 miles, is served by government automobiles. There are now 114 miles of this government railway in operation between Anjiro and Brickaville; the later place is 94 miles from Tamatave, and the service between the two places is effected by 7 miles of railway from Tamatave to Ivandroo, and from Ivandroo by the steamers of the *Compagnie des Messageries Françaises de Madagascar*.

According to the *Journal Officiel* of the colony of Madagascar a canal has been opened between Vatomandry and Marosika, about 22 miles apart on the east coast of Madagascar. The canal is effected by the joining of a number of lagoons, situated in the interior and will serve as a means of transport for the natives to bring their produce to Vatomandry, which is one of the important ports on the east coast of the island.

INDUSTRIES.

CONDITIONS AND PRODUCTS.

COLOMBIA.

INVESTMENT OF AMERICAN CAPITAL WOULD ENLARGE OUR TRADE.

Consul Isaac A. Manning, of Cartagena, furnishes the following information relative to the undeveloped resources of Colombia and the opportunities now offering for the investment of foreign capital in that country :

President Reyes, during his recent visit to the Atlantic coast, set forth many ideas as to the future of Colombia, some of which seem to offer excellent opportunities for the investment of American capital, and, therefore, for the extension of American trade.

President Reyes has called the attention of the people to the opportunities for the cultivation of bananas and other marketable fruits, of cotton, tobacco, and sugar cane; for the development of manufactures, especially of cotton, leather goods, tobacco, and sugar; for the exploitation of the mineral resources of the country, as yet relatively dormant.

MINERAL AND FRUIT RESOURCES.

The President declares that reports have been made to him of the mineral wealth of the Antioquia and Cauca districts which satisfy him that there is much highly productive ground of a placer character yet untouched; that quartz deposits are to be found all over these departments which will in time develop into veritable high-grade paying mines. Many new mines are being opened and developed in these regions, and yet there is ground for countless more. These are not "poor man" propositions, but opportunities for investment of capital.

In the development of the banana industry President Reyes is paying especial attention to the district of Santa Marta, at the base of the Sierra Nevada Mountains, although there is much other good banana land in many parts of the Atlantic coast.

The valleys of the rivers Leon and Atrato have long been recognized as having proper characteristics for the cultivation of this fruit. On the Sinu River there is also much good banana land, as well as land proper for the cultivation of oranges, pineapples, alligator pears, and many other tropical products. This is the great cattle belt, as it is also the source of the cedar and mahogany exported from Colombia. In this valley are both coal and petroleum awaiting capital for their development.

HOW LANDS MAY BE ACQUIRED.

In the Leon and Atrato district lands can be had under concession from the Government. The purchaser may select and denounce the

land by paying the expenses of measurement; or land may be had by purchase of land scrip, granted under previous concessions, for a few cents per hectare (2.471 acres). The lands of this region are said to be very fertile, and a small expenditure in dredging the mouths of the rivers Leon and Atrato would make those rivers navigable for fruit ships for many miles into the interior.

There are transportation routes awaiting development which would pay—routes which would develop districts rich in mineral and agricultural possibilities, which are idle and abandoned for lack of transportation facilities. There is no doubt that one of the greatest helps in advancing American trade in Latin America is the presence of American capital in the industries of these countries.

CARIBBEAN COAST RAILWAY.

Among the important proposals made by President Reyes recently was one suggesting the construction of a railway to connect with the Cartagena (Colombia) Railway leading southward parallel to the Caribbean coast, passing through Sincerin, where the new sugar manufactory is being erected, to the town of Tolu on the Gulf of Morrosquillo. This route would open to transportation one of the richest agricultural territories of the hot zone of Colombia, a territory which has produced 11,000,000 pounds of tobacco for export during the past two years, many thousand cattle, much rice and cotton, and which, in an expanse of 98,840 acres of land tributary thereto, could be made to produce great quantities of sugar, bananas, and almost every kind of tropical fruit. The land is generally level, exceedingly fertile, and well watered—an important feature in tropical agriculture. Coal, iron, and petroleum are known to exist near the suggested route, while mahogany, Spanish cedar, and other valuable timber, as well as rubber, are found near thereto.

At Sincerin a sugar factory will, within a few months, begin grinding the cane from 3,000 acres now planted, the first harvest of which is expected to produce 12,000 metric tons, or 265,000 bags of sugar. There are 1,300 men engaged in the work of installation of the sugar plant and extending the cane plantation. The establishment of other factories of this character only await transportation.

This proposed railway would in time, according to the hopes of President Reyes, be a branch of a grand transcontinental system leading from Santa Marta on the northeast to Colon at the mouth of the Panama Canal.

CANALIZATION OF THE DIKE.

The Government of Colombia and the commercial interests of Cartagena are again considering the dredging and reopening to traffic of the dike or canal leading from the Magdalena River at Calamar to the opening into the bay of Cartagena, with a view to reestablishing direct steamboat connection between this port and the ports of the Magdalena.

The first improvement of this dike was in 1726, but in 1734 it had began to fill up again, when the King of Spain had it reopened at the expense of the former contractor. In 1844 an American engineer took a contract for its excavation and opening, with a view to steamboat traffic, and in 1848 he had completed its canalization, and its opening was publicly celebrated.

It was kept pretty free from obstructions until 1892 or 1893, since when it has been neglected. Among the greatest obstructions to its easy navigation are the great beds of wild hyacinths, which at times almost cover its surface. Another difficulty is its tortuous character, causing steamers much delay.

The idea of dredging this channel has been frequently mooted of late years, but a prominent American engineer who recently passed through its entire length states that straightening the canal in many places would be necessary to make it a practicable waterway for rapid transportation. This, he thinks, would require considerable expenditure, but once done and the channel dredged and cleared of the drift and the hyacinths which foul a steamer's wheel, it would be a valuable connection of the Magdalena and Cauca river transportation routes.

Such a work carried to conclusion would open up a rich bed of agricultural lands along the Magdalena River to the cultivation of bananas and other tropical products requiring quick dispatch and few handlings to keep them in merchantable state for export.

SWITZERLAND.

SERIOUS DEPRESSION IN THE WATCH-CASE INDUSTRY.

Consul R. E. Mansfield writes from Lucerne that, although Switzerland has not yet been seriously affected by the general business depression that has made itself felt throughout Europe since the beginning of the present year, some branches of industry in the confederation are now beginning to complain of the lack of export orders and a serious decrease in trade. In stating that this is especially true in the manufacture of watch cases, he says:

Watch cases constitute an important branch of Swiss industry. It is claimed by some manufacturers that the present falling off in the watch trade is due to the law of compensation in commerce, which shows that a period of unusual prosperity in business, such as has been experienced in recent years, is invariably followed by a depression, and not infrequently by strikes and a general crisis.

But the great decrease in the production of watch cases in Switzerland for the first four months of 1908, as compared with the corresponding period in 1907, would indicate that there are special, rather than general, reasons for the present depressed condition in that particular branch of industry. The figures in the following table show the number of watch cases in silver and gold produced in Switzerland during the four-month periods mentioned:

Month.	1907.	1908.	Per cent decrease.
	<i>Pieces.</i>	<i>Pieces.</i>	
January	327,622	221,050	32.5
February	329,162	244,582	25.7
March	345,675	220,677	36.2
April	335,367	211,634	37.0
Total	1,337,826	897,923	32.9

These figures show a decrease in production of nearly a half million cases for the first four months of the year. It is estimated that there was a like decrease in the number of steel and other metal watch

cases other than gold and silver, as the last named are the only kinds registered and stamped, and consequently the only classes concerning which the Government keeps a record.

So serious is the depression becoming in some of the Cantons where the watchmaking industry is large that a general crisis and threatened strikes are imminent. In some instances the Cantonal governments have lent assistance to the local industries in order to give employment to the people in the factories.

DEPENDENCE ON MANUFACTURING—EXPORT COMPETITION.

A general industrial depression in Switzerland produces a more serious situation than a similar condition does in some other countries. A large per cent of the territory comprising the Confederation is mountainous, which, together with a sterility of soil, renders much of the country nonproductive. Because of these naturally unfavorable conditions, the Swiss people have directed their energies to industrial pursuits, which furnish the basis for the general commercial stability of the country.

The watchmakers' trade, or guild, is one of the oldest in the Confederation, and Swiss watches have a world-wide reputation. They represent various styles and grades, the enameled cases being especially popular for export trade. In looking for specific causes for the present crisis in the watch industry, the fact that other countries, including the United States, have made wonderful progress in recent years in the production of watches by modern methods must be taken into account. In Switzerland portions of certain classes of watches are made by hand, and it is a well-demonstrated fact that hand labor, no matter how cheap and proficient, can not compete with modern machinery in the world's markets.

The crisis in the watch industry in Switzerland does not, however, affect seriously the trade of the Confederation with the United States. The total value of watches and clocks exported from Switzerland in 1906 was \$29,000,000, of which only \$175,000, or a little over 6 per cent, is credited to the United States. The total imports of watches and clocks into Switzerland for the corresponding period amounted to \$862,500, of which practically none is credited to the United States.

ITALY.

DEVELOPMENT IN THE MANUFACTURE OF CHIP HATS AND PLAITS.

Consular Agent Carlo Gardini, at Bologna, has prepared the following account of the chip hat and plait industry in that part of Italy:

The manufacture of chip hats and plaits is a very ancient one and characteristic of the province of Modena, within this district, having been introduced at Carpi at the beginning of the sixteenth century by Nicolo Biondo, its inventor. The chip is made through a special process from a willow tree grown on the banks of the Po. During several years past the manufacture of chip plaits has spread into many other communes of the province and in other border provinces, such as Reggio-Emilia, Bologna, and Ferrara, without detriment to the commune of Carpi, the principal center of the trade.

Much has been contributed to the fortunate growth of the historical industry through the improvements effected by a new \$500,000 stock company, which has built at Carpi a new plant with perfected machinery based upon the latest chemical discoveries. Nowadays chip hats and plaits are whitened and dyed on the premises, while in the past they were exported to and reimported from Germany and England to undergo this process. Thus the bleached and dyed goods are directly shipped from the place of production to foreign markets.

THE EXPORT TRADE.

The exportation of this peculiar product is made to all the markets of Europe, America, East Indies, and Australia, but principally to New York, Paris, London, Berlin, Brussels, and Vienna. The industry in the province of Modena alone occupies more than 25,000 hands, females predominating. Owing to its peculiarity it is liable, more than any other industry, to periods of business activity and of stagnation, in accordance with the changes of fashions. The annual production is estimated at 10,000,000 to 15,000,000 Italian lire, equal to \$1,930,000 to \$2,895,000. During the past three years both the production and the exportation of chip hats and plaits steadily has increased. The yearly exports from the commune of Carpi, which a few years ago was calculated at 3,000,000 to 4,000,000 lire, equal to \$579,000 to \$772,000, has increased to 15,000,000 lire, equal to \$2,895,000. During the fiscal year ended June 30, 1907, the declared value of chip hats and plaits exported from Bologna to the United States was \$357,996.

Straw hats and braids are also extensively manufactured in the commune of Formigine Modena, where the average annual production is about 3,000,000 pieces of braids, measuring from 40 to 50 yards each, besides 30,000 straw hats.

Willow baskets represent a prosperous industry, which was formerly scattered. An enormous exportation, chiefly to Germany, is the work of several hundred poor families of the country.

FRANCE.

FLUCTUATING BUSINESS IN THE NIORT GLOVE SKIN TRADE.

Consul George H. Jackson makes the following report from La Rochelle on the French kid-skin and glove trade in the adjoining city of Niort:

Formerly Niort occupied a very important position in tanning and preparing kid skins for glove making and for the manufacture of gloves. The leather produced there is exclusively that known as "suede" or "chamois," being an excellent imitation of genuine chamois skin. The industry and commerce became much reduced as "suede" gloves went out of style. Recently this business is beginning to look up again. The business methods of the producers may have had something to do with the decline. Formerly purchasers sought this market until travelers from other centers visited the purchasers, who, being thus relieved of the necessity of seeking their goods, bought of the agents. Niort still clung to the habit and tradition and lost her trade. The reviving business is due to

enterprising German and English (principally the former) agents who are again supplying Niort's gloves and kid skins to the export trade.

Last year 100,000 dozen pairs of gloves were produced, valued at \$110,000, or about one-third less than the former output. The prices ranged from \$3.28 to \$12 per dozen pairs, according to the quality.

All the kid skins prepared for glove making are not consumed by the industry at Niort, about 60,000 dozen skins being used to supply other domestic and foreign trade. The value of the skins varies from \$3.86 to \$11.58 per dozen. The total production of prepared skins (sheep and goat) is about 85,000 dozens, having a value of \$656,200.

The American trade has recently become interested in these products, and in 1906 imported to the amount of \$10,945. That the quality of the merchandise was appreciated and satisfactory is shown by the importations of 1907, which amounted to \$31,597. The tanners of this region are satisfied with reasonable profits and do not employ any "hurry-up" methods in their work.

CHINA.

GLASS AND PORCELAIN MANUFACTURES ARE GROWING IN FAVOR.

The following information concerning the glass and porcelain industries of Poshan, China, and the establishment of a window-glass factory in Peking, is furnished by Consul Wilbur T. Gracey, of Tsingtau:

This consulate recently reported that the glassworks at Poshan, province of Shantung, had taken to the manufacture of glass and porcelain insulators for telegraphic lines, and had sent samples of their products to Peking. It is now reported that the trial manufacture of these insulators has proved even more successful than was anticipated. According to official tests at Peking, they are said to be better and cheaper than imported insulators, and orders will in future be sent to the Poshan works. The governor of the province has given an allowance of about \$3,000 gold to improve and enlarge the works.

It is stated that the insulators made of porcelain can be sold at about \$1.53 per dozen, and the dozen pieces which accompany them at 8½ cents gold; the necessary hooks and screws which go with them will also be made locally.

The manufacture of several new models for vases, washbowls, and teapots has recently been started, and it is reported that they are meeting with general favor.

There is some talk of starting a cement factory at Poshan, as it is said that suitable rock exists in the neighborhood. All of the new products now being produced at Poshan are being exhibited in Peking; the Government has decided to fill its wants at the city when it is possible, and means are being used to attract attention to the products of the place.

A large glass factory is also being built in Peking with the intention of manufacturing window glass, which is largely used in China, and forms one of the principal imports from foreign countries. The capital of the company is entirely Chinese, the machinery has been secured from Great Britain, and it is reported that Germans will superintend the work.

JAPAN.

SERIOUS MATTING MARKET DEPRESSION—PLANS FOR CURTAILMENT.

Consul-General Henry B. Miller sends from Yokohama the following Japanese newspaper statement on the condition of the matting trade:

Among the other industries suffering from the prevailing depression is matting, the industry in Okayama prefecture being in serious straits on account of the depreciation in the market, resulting in a heavy congestion of stocks and the locking up of a considerable amount of capital. The market has still a downward tendency. It is feared that if present conditions continue longer, financial circles will be seriously affected, and matting men in Okayama are considering measures for the relief of the situation. It is proposed by the matting guilds of Niwase and Nazukawa, the matting-producing centers in Okayama prefecture, that as a first step in the operations for the revival of the market, the cost of production should be reduced, strict measures taken for preventing the production of inferior qualities, the number of weaving looms in operation reduced, and the suspension of sales for the time being to clear stocks.

A belief has been expressed that the area of land devoted to the cultivation of rush for making matting would decrease this year. According to the latest reports reaching the Kobe matting inspection office, however, such is not the case. The area of land devoted to the cultivation of rush in the four principal matting-producing prefectures this year is 3,371 cho (cho=2.45 acres) compared with 3,380 cho last year.

CHILE.

INCREASED USE OF MOTIVE POWER BY SMALL INDUSTRIES.

Consul Alfred A. Winslow, of Valparaiso, reports that the number of small industries which is being supplied with engine and motor power is very rapidly increasing in Chile. Electric power is coming to the fore in this line because of expensive fuel. This is especially true of Valparaiso. In the industries of Santiago there are now in use 491 engines and motors, with a total force of 6,400 horsepower, as follows:

Kind.	Number.	Total h. p.	Average h. p.
Water power	43	1,872	43½
Gas motor	186	1,955	10½
Electric motor	187	965	5
Kerosene engines	4	37	9½
Gas engines	6	215	36
Steam engines.....	65	1,856	21
Total	491	6,400	13

AUSTRALIA.

MANUFACTURE OF PHOTOGRAPHIC MATERIALS AT MELBOURNE.

Consul-General John P. Bray makes the report from Melbourne that a factory for the manufacture of photographic material on a large scale is shortly to be established in that city, which, if successful, will greatly affect the imports from the United States. The machinery for the factory has been purchased in the United States and England and the firm undertaking the enterprise has secured from some of the largest manufacturers of the world the formula and rights for the manufacture of films, collodio carbon paper, aristo paper, velox paper, solio printing out paper, dry plates, and other articles. The Australian duty on photographic material is 25 per cent on goods from England and 30 per cent from other countries.

LEATHER MANUFACTURES.

FRANCE.

INDUSTRIAL DIFFICULTIES AND COMPETITION WITH IMPORTS.

Consul-General Robert P. Skinner, of Marseille, advises that the French leather industry is at the present time suffering from a crisis the causes of which are being studied by the minister of labor, and responsibility for which is attributed in no small degree to foreign competition, particularly American and German competition. Mr. Skinner reviews the situation as follows:

For a number of years, ten at the most, foreign countries formerly importers of French goods have been disposing of prepared leathers in the French market. To cite a single example, while exports of French shoes have fallen off, importations of shoes and leather, particularly box calf, have greatly increased. Within the last three years alone importations of shoes have increased from 447,245 pairs in 1905 and 587,402 pairs in 1906 to 664,400 pairs in 1907. It seems to be the opinion that French methods are in need of radical changes, and that French manufacturers will look more and more to such enterprises as the Chicago shoe and leather fair to discover processes suitable to their particular cases.

LIMITED FACTORY OPERATIONS.

At the present time, with a few exceptions, empirical methods prevail in the preparation of French leathers. About half the tanning firms employ less than 5 workmen and 92 per cent of all have less than 21 employees each. The consequence is that while a few strong houses have adopted chrome tanning processes, the many are still using bark and alum instead of extracts, and no great success has followed various efforts to improve the situation, which is to some extent due to the limited capital of the small concerns. Indeed, a number of large firms, after having adopted the chrome process, were obliged to give it up because of repeated accidents in which skins in preparation were badly burned.

A French employer estimates that more than three-fourths of the colored box calf used in this country is imported, and particularly from Germany. The demand for the leather is considerable, and the care with which it is produced in the United States and Germany enables exporters to demand high prices.

Twenty-five years ago France supplied the world with glacé-kid skins, but since that time German and American competitors have captured the foreign trade and since 1906 have taken a strong place in the French market itself. The minister of labor makes the following very significant statement:

The chemical methods of manufacture (of glacé-kid skins) in the United States are or were superior to French methods; we have about equaled them. Foremen were sent to the United States; the sons of important manufacturers themselves were sent over to study these methods. Finally machines were set up in this country like those used in the United States. But the thing that was missing and is still missing, perhaps, was the intelligent and willing co-operation of the workmen in taking up these new processes. The French workman, unlike the American, does not readily adopt machinery. He works much slower and therein his education is yet to be made.

To mention one instance of the activity of the American workman: In one day in a fleshing department in the United States 40 employees with 40 machines would make 1,500 dozen of skins of 75 feet to the dozen; in France in one of the great houses 40 workmen and 40 machines—American machines, like the others—make 800 dozens, and the skins are of only 65 feet to the dozen. Here is a constant cause of inferiority. Also in the concern referred to it is proposed to reduce the number of workmen. One-third of them must soon be sent away if the present system of labor is not ameliorated and the cost of the product reduced.

STATEMENTS OF WORKMEN.

Foreign competition in France does not stop at dressed glacé kid; it extends also to patent kid, an article in which French manufacturers have been without superior in the past. According to the workmen themselves, American leather of this class is preferred in this country, even at higher prices, because "their varnishes are less brittle, the grain is not loaded, and thus the skins resemble a very brilliant glacé, while ours at times resemble oilcloth; the coating of varnish, being thicker, hides the grain, and is more liable to crack."

It seems to be conceded that, in a general way, foreign leathers are better than French, and sell better, although higher in price. No very definite remedies are proposed. The workmen, whose situations become more precarious, suggest a mixed committee to study the whole question from every point of view, including a modification of the tariff covering leather and leather goods.

TARIFF DISCRIMINATION—FOREIGN TRADE.

It is apparently the case that whereas American leathers were the first to reach the French market to an important extent, German leathers are now coming in and tend to displace the American. As in many other lines of business, the latter are seriously handicapped by tariff discrimination, for whereas American exporters pay maximum rates the German houses have the benefit of the minimum tariff. In this respect German competitors find an excellent profit in their tariff advantage alone. The rates are as follows:

Articles.	General tariff paid by United States per 100 kilos (220 pounds).	Minimum tariff paid by Germany per 100 kilos (220 pounds).
Tanned goat, kid, sheep, and lamb skins.....	\$2. 89	\$1. 93
Other skins—entire squares.....	11. 58	6. 17
Waxed calf, or ready to be waxed.....	7. 72	4. 82
Dressed goat, kid, sheep, and lamb skins.....	17. 37	11. 58
Dressed and grained beef skins, colored or black.....	13. 51	9. 65
Patent leather.....	36. 67	24. 12
Boots, per pair.....	. 48	. 83
Shoes, per pair.....	. 48	. 29
Slippers, per pair.....	. 19	. 14

The total exports of leather from France for the past three years have been:

Articles.	1907.	1906.	1905.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Tanned leather.....	3, 259	3, 558	3, 099
Waxed calf.....	671	1, 073	1, 096
Curried leather:			
Small skins.....	3, 589	2, 999	3, 428
Large skins.....	707	714	706
Patent leather.....	839	859	506

The total leather importations into France for the same periods have been :

Articles.	1907.	1906.	1905.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Cut soles and heels	2.8	2.9	3.6
Boot tops	17.8	26.5	22.5
Belting and straps	152.5	143.9	122.9
Tanned goat, kid, sheep, and lamb skins	1,111.7	864.7	996.7
Other tanned leather	4,371	4,840.4	4,594
Curried leathers:			
Waxed calf	162.5	165.4	221
Tinted or black calf or goat skins	589.1	746.7	575.7
Cowskins or larger skins	445.8	523.8	562.7
Pigskins	197.9	184.3	171.6
Varnished leather	224.3	246.9	256.2
Unclassed	130	142	82.3
Shoes	664,400	587,402	447,245

Included in the above are :

Description.	1907.	1906.	1905.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Importations of prepared skins from United States	498.1	536.9	339.1
Importations of prepared skins from Germany	1,102	1,261.7	1,357.1

BRITISH INDIA.

DEEP INTEREST IN IMPROVED TANNING METHODS—NATIVE MATERIALS.

The following report from Consul-General William H. Michael at Calcutta indicates that the tanning industry in India is entering upon a new era :

Old methods are passing away and modern ones are taking their place. Within the last few months several young Indians have applied to me for information as to how they might avail themselves of instruction in America on the modern methods of tanning and dressing leather. They were well educated and highly connected, and well-to-do Hindus, who were willing to enter an American tannery and learn the business from the bottom up. They had passed through the laboratory training given in India, and taken practical instruction in Indian tanneries, but they had found that in tanning and dressing of leathers they would find more advanced methods in the United States.

There is a very general feeling in India that the tanning materials indigenous to the country are not being utilized to the best advantage, and the subject is being agitated in the press and scientific schools. It is proposed to send sample barks and woods possessing tanning properties to England for analysis to determine their value, and to make extracts for testing purposes in actual tanning.

It is believed that India can enlarge her leather-tanning operations by use of extracts, which is considered better than the barks, and at the same time establish a large export trade in such extracts. Extracts from the acacia catechu, or cutch, as it is commonly called, is made in Burma, Kumaon, and Bombay. The extract itself was at one time called "terra japonica," because it was at first classed as a mineral substance. In 1906 there were 7,318 tons of this tanning and dye commodity exported to England. There is a growing demand for myrabolams in the United States. This is a fruit of the termi-

nalía chebula, which grows abundantly in parts of India and Burma. Myrabolams are largely consumed in Germany, where the imports have fallen from 19,141 tons in 1904 to 14,744 tons in 1906. There is one factory in India where an excellent extract of myrabolams is made for the English market. This is at Ranigunge, but in order to meet the demands of the trade there should be a similar factory established in Madras and Bombay. Myrabolam extract is light in color, and admits of combination with other materials for the manufacture of high-class leather.

THE FISHERIES.

NORWAY.

NEW LAW PASSED FORBIDDING TRAWLING—HOW IT WILL OPERATE.

Consul Felix S. S. Johnson, writing from Bergen, says that the new law forbidding trawling in Norwegian waters has been unanimously passed by the Parliament at Christiania, to which he adds:

The law may therefore be considered as enacted, and will be enforced as soon as it has the King's approval. As this law is intended for the whole country and will be in operation the year round, its enforcement will be easy when its provisions are carried out. Special benefit will be derived by the decision that foreign trawlers within Norwegian territory will be obliged to keep their trawls unfastened from the float boards and stowed away. The trawlers' possibilities of taking advantage of the absence of supervision within Norwegian territories are thus greatly lessened, as this stowing away of the trawl is a task which a trawler rather prefers not to undertake while on a cruise. Exempt from this law are shrimp trawls of a size to be determined by the King, in order that the shrimp fishing may not be damaged to any extent. Recommendations as to this restrictive law had been sent to the fishing department on February 14, 1906, by the Director of the Fisheries and were, in 1907, strongly and unanimously indorsed by the fishing committee. The Government bill was brought up on February 25 and prompt action taken, because of the use of the trawl by Norwegians in Finmark during the cod-fishery catch this year and from fear that foreign trawlers, a great number of whom now want to fish east, especially at Cape Kanin at the inlet of the White Sea, would in time fish along the Finmark coast.

EFFECT ON SEINES AND LINES.

The employment of seines and lines on the same coast extensions which are now used by trawlers is not possible, as these implements would be caught by the trawls and carried off or broken. The prohibition is thus a necessity for the regular seine or line fishing, which in a smaller or larger degree is carried on along the Norwegian coast.

A great part of this fishing is carried on outside the mile boundary (Norwegian mile is a little more than 6 English miles), where the fishermen can still stand the risk, but the water, which as a rule is deep, makes the opportunity for trawl fishing much smaller.

Trawl fishing in Norwegian waters has not been practiced to any extent until this year, when a Norwegian trawler operated in the Finmark fisheries. Therefore the law does not interfere detrimen-

tally with any trade now carried on. It is believed, however, that in future more and more trawl fishing will be carried on outside the territorial boundary; for instance, in the North Sea, the Faroes, Iceland, and on the sea banks east of Finmark.

Should it come to that, exceptions will possibly be made in the rules for fishing during certain fishing seasons and upon certain extensions which are found suitable for trawling, but this is a question for the future, the present conditions of the Norwegian fishing trade not calling for it.

CANADA.

ONTARIO'S DECREASED CATCH—AMERICAN ROD FISHERS IN KINGSTON.

Consul Howard D. Van Sant, of Kingston, furnishes the following statistics relative to the decreased fish catch in Ontario waters and the annual expenditures of American rod fishers in the Kingston district:

According to Canadian official publications the difference in the catch of whitefish and herring between 1889 and 1906 amounted to 11,500,000 pounds. Measures are now being urgently proposed for better fish protection, both for game and food fishes. There are 37 branches of fish-protecting associations in Ontario circulating petitions dealing with the protection of fish, asking that more inspectors be appointed, equipped with power and other boats, and that the Province have hatcheries capable of turning out 300,000,000 fish annually.

In 1907 the export of fish from the Kingston district to the United States amounted to \$17,984.88. These fish were principally whitefish, though considerable quantities of herring, catfish, rockfish, etc., were exported. The export of black bass, the gamest and best food fish of these waters, is prohibited. It is estimated that several thousand Americans annually visit Kingston and vicinity to engage in the black-bass fishing, the open season of which commences on June 15. As each American fisherman must pay from \$2 to \$5 license fee, and as it costs him from \$25 to \$200 before his fishing trip is ended, the yearly income from Americans engaged in bass and salmon fishing in this district amounts to several hundred thousand dollars.

BOMBAY ELECTRICAL DEVELOPMENT.

ADVANCED USE OF MODERN LIGHT AND POWER IN BRITISH INDIA.

In reporting that less than three years ago Bombay, the third largest city in the British Empire, was without any organized system of electrical supply, Consul E. Haldeman Dennison presents the following developing contrast:

In September, 1905, a new era was born when the newly formed Bombay Electric Supply and Tramway Company started a public electric supply over about 7 miles of mains in the European business section of the city. The advantages of electricity were speedily appreciated, and by the end of the year installations amounting to the equivalent of nearly 20,000 8-candlepower lamps had been coupled to the mains, including over 1,000 electric fans.

During the past two years, although busied with the electrical construction of its prosperous horse tramway system, the company has found time to develop its general electrical supply at the rapid rate shown by the following table.

Date.	Mileage of streets served by mains.	Equivalent number 8 c. p. lamps.	Number of electric punkahs.	Brake h. p. of electric motors.
January 1, 1906.....	7½	19,778	1,050	69
January 1, 1907.....	8	58,849	2,110	219
April 1, 1908.....	11½	^a 100,000	4,000	474

^a Approximate.

The increase in the consumption of electrical energy is also shown by the fact that in 1907 the units sold to consumers was 1,233,671, against 488,477 in 1906. This rapid progress shows no signs of falling off, and now that the electrification of the tramways has been practically completed, the arrangements for providing electric supply in other districts of the city will be taken in hand. Trunk mains have already been laid to Malabar Hill, the fashionable residential section, where 3 miles of distributing mains have already been laid and a further 2 miles will be brought into operation before July next. In fact in a few months more every section of the city will be supplied.

One of the chief points in favor of the electric supply is its low cost. During 1907 the average rate per unit for lighting and fans only amounted to a fraction more than 7 cents, an average which is perhaps the lowest obtainable in the East.

COST TO CONSUMERS.

Considerable modifications and reductions have been made in the rates originally offered, and for what may be termed the "retail" supply the following are now in force:

(a) For general purposes, 8 annas (anna=2 cents) per unit for the number of units equivalent to one hour's use per day throughout the month of the maximum demand as shown by indicator, and 2 annas per unit for all units in excess of this quantity as shown by difference between meter and indicator readings for the month.

(b) For elevators, 4 annas per unit flat rate.

(c) For bona fide industrial motive power installations of 5-brake horse-power and upward, 2 annas per unit flat rate.

Under rate (a) it is found that the cost of a supply for fans and lighting for a residential flat averages 15 rupees (rupee=32.4 cents) per month, a most moderate charge considering the luxury obtained as compared with the old-fashioned oil lamps and hand-pulled punkahs. Rate (b) is rapidly being taken advantage of for passenger elevators in all the modern blocks of offices and flats, the average cost of running an elevator being found to be under 20 rupees per month. Rate (c) has been adopted as an encouragement to small industrial concerns, such as printing works, mineral water factories, etc., and the advantages of the low first cost, small space occupied, and absence of noise are speedily bringing the electric motor into favor in Bombay.

As regards the supply of electric motive power in large quantities little has yet been done in this direction, for the demands made by the electric tramways and by the rapid increase in the general supply

business have engaged nearly the whole of the 6,000 horsepower of generating machinery belonging to the company. Extensive additions are now, however, under consideration, and as soon as these are made it is anticipated that special advantages will be offered to many manufacturers and that electric driving on a large scale will be introduced in Bombay.

FRENCH DAIRYING PROGRESS.

LA ROCHELLE DISTRICT IMPROVING BREEDS AND PRODUCTS.

Consul George H. Jackson reports that the dairying industry is taking on increasing importance in the French region of La Rochelle, which is admirably adapted to the necessary conditions, viz, plenty of water, good pasturage in extensive meadows, and a climate relatively uniform, which permits cattle to feed in the fields nearly all the winter. The consul continues:

In the neighborhood of all the cities of any size, not only in this consular district but all over France, dairying efforts were formerly made with a greater or less degree of success, and it is but recently that larger interests are creating centers for the production of these foodstuffs. Consequently there have been numerous experiments in removing milch cattle from one part of France to another to see if they adapted themselves readily to new surroundings. For instance, it has been found that the Normandy cow brought to this region loses to a certain degree her excellent qualities as a butter maker, while those from Brittany maintain the excellent reputation they have at home. The Parthenay breed of cattle is perhaps the most remarkable for butter producing. It is generally conceded in this region that it is necessary to average 17 liters (17.85 quarts) to produce 1 kilo (2.2 pounds) of butter. This was already considered an excellent showing, but in the competitions of 1905 and 1906 milch cattle of the Parthenay breed gave remarkable results.

The competition of 1907 was equally interesting, the first prize being accorded to a cow whose milk produced 1 kilo (2.2 pounds) for each 11.28 liters (11.83 quarts). The averages for the last competition varied between 13 and 14 liters (13.65 and 14.70 quarts), instead of 17 liters (17.85 quarts), which was formerly considered an excellent showing.

CAREFUL CONSIDERATION OF PROFITS.

This industry is proving profitable for the wide-awake dairyman who chooses carefully his animals and organizes his pasturage in such a manner as to permit his meadows to take on new growth after they have been carefully browsed over by his cattle.

In the Pyreneese it appears that a liter (1.05 quarts) of milk sells for an average price of 20 centimes (4 cents). At this price the keeping of cattle is considered lucrative. Far from the cities a liter of milk (1.05 quarts) fed to calves and pigs is worth about 10 centimes (2 cents). In the same localities, sold for dairy purposes, it is worth 12 centimes (2½ cents). In this region a liter of milk (1.05 quarts) produces butter worth 17 centimes and buttermilk worth 2 centimes, a total of 19 centimes (nearly 4 cents). It must be taken into account that there is more or less loss when milk is sold for consumption as such, which necessarily diminishes the value to the proprietor.

while milk sold for butter maintains its entire value as calculated from these figures.

Dairies are being established very rapidly in the whole consular district, and the butter of Surgères, manufactured after the most improved methods, is rapidly displacing on the Paris market Holland and Belgian butters. In fact, demand for dairy products of this region is very much greater than the supply, and the larger cities are all the time calling for more. Experiments are being conducted with several breeds of cattle in order to learn their value as butter producers.

TURKS ISLANDS SALT.

LATE SEASON—MISUNDERSTANDING BY AMERICAN IMPORTERS.

Consul J. A. Howells makes the following report on the salt trade of Turks Islands in the West Indies:

Salt raking began in this colony May 1, being somewhat later than usual. The price has advanced to 5 cents for coarse and 7 cents for ground salt—in fact, while coarse salt has been selling at $4\frac{1}{2}$ cents a bushel, ground salt has brought $6\frac{1}{2}$ to 7 cents. There is now only about 250,000 bushels in sight, and with three or four vessels loading the stock on hand will be reduced to less than 200,000 bushels. Some holders have already refused to sell at 5 cents.

Sometimes misunderstandings arise between salt dealers in the United States and salt makers of Turks Islands colony as to weight of salt. It should be understood that all salt shipped from this colony is sold by the bushel, and never by weight. A bushel of salt at Turks Islands contains 35 Imperial quarts—equal to nearly 36 quarts in the United States. A cargo of 25,000 to 35,000 bushels will often overrun 500 bushels when measured in the United States. It varies greatly in weight, running from 60 to 75 (or even more) pounds to the bushel. Ground salt always weighs more than coarse salt.

If these facts were considered, there should be no disputes about short measure. When loading, a Government inspector is on board the vessel and tallies every bushel as it is cast into the hold.

GERMAN HOME WORKERS.

LOW WAGES PAID FOR HAND-MADE WORK IN THE VARIOUS LINES.

Consul-General Richard Guenther reports that the "Exposition of hand-made home manufactures" recently held at Frankfort indicates very low wages for the persons working at their homes on many articles made for the German trade. His details follow:

Women earn 1.6 marks (38 cents) for knitting a dozen pairs of gloves which absorbs 4 days' work of 10 hours each, thus netting less than 1 cent per hour.

Some of the peasants (small farmers) in the German mountain districts busy themselves during the winter by weaving on hand looms bed ticking and goods for aprons and table use. These weavers earn on an average 5 to $17\frac{1}{2}$ pfennigs ($1\frac{1}{2}$ to $4\frac{1}{2}$ cents) per hour's work.

In Mainz and Worms (ports along the river Rhine) women are employed in darning old bags, their pay being $2\frac{1}{2}$ to 6 pfennigs ($\frac{3}{4}$ to $1\frac{1}{2}$ cents) per sack. The highest wages a woman can earn in one

day is 28½ cents. In consequence of the deleterious dust inhaled when mending these old coal, flour, color, and other bags this occupation is dangerous to health.

Wooden ware (rakes, spades, ladles, spoons, clothespins, shoes, etc.) made by home labor in the German mountain districts are on view in the exposition hall. The persons making these articles earn 10 to 11 pfennigs (2½ to 2⅔ cents) per hour's work. Wooden animals and other ornamental carvings (pipes, clock cases, penholders, etc.), showing artistic talent and deftness on the part of the worker, are on exhibition. The artists producing them earn 10 to 13 pfennigs (2½ to 3⅓ cents) per hour's work.

In one district where high-grade pipes are manufactured the superior skill of the workers, who are graduates of the wood-carving school at Empfertshausen is much in evidence. These skilled carvers earn 12 to 30 pfennigs (2½ to 7 cents) per hour's work.

THE PEACOCK KINGDOM.

AN INDIAN NATIVE STATE CONDUCTED ALONG MODERN LINES.

In transmitting the following information concerning the native State of Mourbhanj, Consul-General William H. Michael, of Calcutta, reports that it offers opportunities for exploitation by American mining engineers and manufacturers:

The little native State of Mourbhanj, known as the "Peacock Kingdom," is the most northerly of the tributary States of Orissa, and native chronicles relate that the principality was founded more than 2,000 years ago. The chief's emblem of signature is a peacock, which is held sacred, and hence the killing of this heraldic bird is strictly forbidden throughout the State. The State has an area of 4,243 square miles and the country is varied in soil and scenery. It abounds in rich valleys, but a vast extent is clothed with primeval forest. The Maharajah of Mourbhanj is an enlightened prince and administers his State on modern British lines, as the administration report for 1906-7 shows. The government is divided into separate departments, as in British territory, and each department is under an officer, who is responsible for its proper administration. Sericulture is being encouraged, and mulberry groves have been planted. The culture of Tasser silkworms is an important industry, and visitors to the recent industrial exhibition at Calcutta had an opportunity of seeing the "tasser" manufactures of this State. The report records, however, that this industry is in a state of decadence. The country is very rich in minerals and forests, but while the latter are being exploited, the former still awaits the attention of the mining expert. The State owns a light railway. Mourbhanj offers first-class opportunities for exploitation by American mining engineers and manufacturers of various kinds of small machinery, sawmills, and the like.

LABOR WORLD.

INDUSTRIAL ADVANCEMENT.

GERMANY.

COMBINATIONS LEADING TO ORGANIZATIONS OF LABOR AND CAPITAL.

The following information concerning the trades unions of Germany and the organizations of labor employers is furnished by Special Agent W. A. Graham Clark, in connection with his report on German cotton mills:

In 1731 organizations of workmen in Prussia were absolutely forbidden by law. This law was partially repealed in 1848, but soon put in force again, and was not finally abolished until 1868. They then increased rapidly, and as many were socialistic, and even revolutionary, in their scope the Government deemed them a menace and in 1878 once more passed laws against such unions, which had the effect of suppressing large numbers of bodies of workmen. In 1890 these restrictions were finally removed and nearly one-tenth of the German workers are now estimated to belong to some union. Some unions were started from economic, intellectual, or religious motives, but practically all have become socialistic.

There are now a great number of unions and subunions, but the great bulk of these are embraced in the following five groups: (1) The "Free" or Social Democratic Gewerkschaften; (2) the "Christian" Gewerkschaften; (3) the "German" or Hirsch-Duncker Gewerkvereine; (4) the Evangelical Workers' Unions; (5) the Catholic Workers' Unions.

THE FREE TRADES' UNION.

The Social Democratic Gewerkschaften, or, as it is usually known, the Free Trades' Union, is by far the most important and embraces some 1,100,000 of the total 1,500,000 union operatives in Germany. Of the 60,000 women in German unions some 48,000 belong to this organization. It is also the union that appeals most strongly to the textile workers, and of some 45,000 men and 20,000 women of the textile industry in unions, 41,000 men and 13,000 women are "Free" unionists. The largest group of workers belonging to the Free Union are the metal workers, then the masons, the wood workers, and the miners, the textile group ranking fifth.

This union was founded in 1867 and is the oldest of modern German trades unions, with the exception of the smaller unions of the tobacco workers, founded in 1865, and that of the typographers, founded in 1866. All three of these were started before the old law forbidding such organizations was abrogated. The headquarters of the Free Union is at Berlin. It is a very powerful body of workers and is carefully organized. Each class of workers is grouped by themselves, according to sections, and these again subdivided. For

instance, all textile workers around Augsburg are entitled to join the textile branch of this union, but are subdivided into the carders' union, the spinners' union, the weavers' union, the hosiery workers' union, etc., and the head of the general union at each center reports to headquarters at Berlin.

The objects of this union are educational, economic, and socialistic. The educational part is devoted to the education of the worker along technical lines, supplementing the primary school education by lectures, conferences, etc., and arranging apprenticeships. The economic part looks toward the raising of wages and the fixing of uniform wage schedules among all workers on the same line of work; giving relief in case of strikes and lockouts, sickness, etc.; placing workers; organization of cooperative societies; construction of good dwellings for workers, etc. The socialistic part deals with the general amelioration of the condition of the workers, and is largely political. The annual assessment is from 8 to 16 marks, or say $3\frac{1}{2}$ to 7 cents a week, and these assessments, with other sources of income, such as investments, interest, etc., bring in over \$5,000,000 a year. The greater part of this sum is expended in sustaining strikes, agitating their propaganda by trade papers and other means, assisting the sick and invalid, relief to operatives out of work, funeral expenses, etc. The reserve fund is now about \$4,000,000. The Social Democratic Gewerkschaften is supposed to be nonpolitical, but they usually work with the Social Democratic party, though they are not necessarily supporters of any one party, but are free to work with any party from which they can gain anything in furtherance of their aims. The Social Democrats are avowedly atheistic, and the Social Democratic Gewerkschaften is largely so.

THE CHRISTIAN AND GERMAN UNIONS

This atheistic tendency of the Social Democratic Gewerkschaften is one of the main causes that led to the formation of the Christian Gewerkschaften. The center of this union is at Cologne, and they number some 225,000 members, of whom about 32,000 are textile workers. Their objects are not materially different from those of the Social Democratic Union, except that they emphasize their belief in religion, and their main objects are the amelioration of the condition of the working classes by cooperation among themselves, securing an impartial administration of the laws, and improving and extending them.

The entrance fee of the Christian Union is 50 pfennigs (11.9 cents), but their yearly dues are higher than those of any other German union. These dues are varied according to the average wages received in the various trades, but run from about 15 to 30 marks (\$3.57 to \$7.14) a year. Their yearly receipts are about \$600,000, and they have a reserve fund of about \$300,000. Most of the railroad and post-office employees belong to this union. In spite of their religious prejudices against the Free Union they work with it for the attainment of political ends.

Another union that exercises a strong influence is that called the German or Hirsch-Duncker Gewerksvereine, the latter name coming from its founder, Doctor Hirsch. Their objects are especially the securing of higher remuneration for work performed. They also agitate for the modification of labor laws in favor of the working classes, the betterment of conditions of work; they give aid in case

of sickness or of stoppage of work, form cooperative societies, instruct workers and give them free counsel, and interfere in cases of difficulties between workers and employers to settle the disputes and arrange wage schedules, etc. They are organized into different trades and these subdivided. Their total membership is about 115,000; only some 6,000 textile workers belong to this union. The object of this union was at first purely economic, but it is now more socialistic. The yearly dues are 10 marks (\$2.38). Their reserve fund is about \$800,000.

EVANGELICAL AND CATHOLIC WORKERS' UNIONS.

The Evangelical Workers' Unions, formed about 1880, are divided into five main branches, which lie in Westphalia, Rhine, Saxony, Silesia, and Baden. Their object is to elevate the worker morally and intellectually, but their lines of work are not materially different from the three socialistic unions noted. They started as anti-socialistic, but most of their 150,000 members lean strongly toward socialism and are active politically. Their main strength lies among those engaged in commerce, such as clerks, bookkeepers, agents, employees in hotels and restaurants, etc., and very little among factory workers. They run a paper to exploit their views, possess libraries, savings funds, relief funds, bureaus for consultation and for placing workers, etc.

The Catholic Workers' Unions were started about 1885, and there are three main unions, those of the south, the east, and the west. Their objects are similar to that of the preceding unions, and they strive to raise the moral and intellectual level of their members within Catholic lines by means of religious and economic conferences. They issue a weekly paper, distribute tracts, and are active politically in furtherance of their aims. They work usually in conjunction with the Christian Workers' Union.

ORGANIZATIONS OF EMPLOYERS.

The rapid increase of workers' unions and their increasing insistence on shorter hours and higher wages has within the last few years led to similar organizations being formed among the employers for mutual protection.

There have been organizations among German manufacturers and employers in general for a long time, but such organizations were mainly local or for commercial purposes, for fixing or changing tariffs, etc. In 1876 there was formed in Berlin a central union of the German industries, the object of which was to develop and extend German trade. In 1904 the strike that broke out among the wigogne spinning mills at Crimmitzschau, in Saxony, fixed the attention of manufacturers on the necessity of having a stronger organization to combat unjust demands of workers, and, at the suggestion of the Saxon manufacturers, the committee of the central union of German industries called a meeting of German employers, which decided to create a central association of the united employers of Germany. Eleven members were appointed to draw up plans and act as an executive committee in establishing the new association. They immediately wired to all manufacturers and in forty-eight hours had collected some \$75,000, and this was later added to largely.

This Central Association of the United Employers of Germany is now strongly organized and in its scheme of defense it embraces all

the industrial unions of Germany. It was comparatively easy to organize the German manufacturers for the reason that the insurance laws of the Government had already forced all those in a certain trade in a certain section to work together on boards to administer insurance funds, examine injured and sick operatives, and to see that each factory had proper safety appliances, etc. They were, therefore, accustomed to working together and when menaced by this new danger they organized quickly on the new lines suggested.

This central union is composed of representatives from all the various German employers' unions, and they have subcommittees in each large industrial center representing all the employers' unions in that section. It is a principle among all these associations to try to avoid strikes and lockouts by all means possible, and to this purpose to have conferences with their workers, but to refuse absolutely to listen to representatives of outside organizations of workers.

OBJECTS AND RESTRICTIONS.

The special object of this central union of the employers' associations is announced to be as follows: To protect employers against unjustifiable demands of workers' unions; to protect those who desire work; to extend and develop the bureau for supplying employers with operatives; to execute decisions relative to strikes; to take charge of the legal protection of its members in all cases in which fundamental principles are at stake.

The central union endeavors to gain the adhesion of all manufacturers. It has a bureau for supplying information to members concerning movements of workers and their qualifications, and in regard to the causes and progress of strikes and the means to combat them, etc. Manufacturers may be refused the right of joining this union if their factories are isolated and at a distance from industrial centers, or for other reasons considered just by the majority of the executive committee, and members may be dropped who refuse to conform to the rules or the decisions of the executive committee or who by their acts endanger the interests of the association.

There is a general meeting once a year and funds are supplied according to a fixed assessment. Every member is supposed to work in the common interest by refusing to pay excessive wages, refusing demands for a reduction of the hours of work at his factory alone, refusing to employ workers who have quitted another employer in a manner unjustifiable or illegal, refusing systematically all interference by workers in the management of the factory and especially in regard to the employment and discharge of workers, and to conform fully to lockout decisions of the committee.

One of the most recent conflicts between the employees and the employers' associations resulted in the victory of the former. This was in regard to the amendments to the working law which were passed in December, 1907, and where the workers' unions, against the strong protest of the manufacturers, had the law modified so that after January 1, 1910, women can not work over ten hours a day, instead of eleven, thus reducing the maximum weekly factory hours to sixty, the substituting of twelve for thirteen as the legal hours per day in cases of temporary overtime permitted in certain cases, and other provisions along the same line.

AUSTRALIA.

NEW BILL FOR THE SETTLEMENT OF INDUSTRIAL DISPUTES.

Consul F. W. Goding, of Newcastle, furnishes the following information covering the proposed law for the settlement of all industrial disputes in New South Wales:

Parliament has been convened for the purpose of passing legislation to take the place of the expiring industrial arbitration act, and a bill has been introduced which doubtless will become law in a few weeks. The governing principles in the bill are that there should be a number of boards, composed of practical men, to deal with disputes that in future may arise in any industry; and that an entirely different tribunal should be called into existence to deal with all matters in the nature of enforcing awards which had been made by the boards, called the Industrial Court. This court has power to hear appeals from the award of a board, either on questions of law or of fact, its decisions to be final.

The bill also provides that the party affected by an award or common rule shall be entitled to appeal to the Industrial Court, for it is finally binding upon himself, yet the conditions are stringent. In the first place, the party aggrieved must establish *prima facie* grounds to induce the court to grant him leave to appeal. In the next place, if leave has been granted, the court may lay down conditions in regard to security for costs which will be a check on frivolous applications. Again, before granting leave to appeal the court may call for a report from the chairman of the board for its own information, and lastly, even if leave to appeal is granted, the award appealed against shall come into operation and continue in operation unless the court shall finally upset it.

CIRCUMSCRIBING UNIONS.

Regarding preference to unions, the clause in the old arbitration act was adopted, which distinctly circumscribes the power of granting preference.

The principle of unionism is recognized as an integral part of Australian industrial life, but it is intended to check any abuse that might be occasioned by the undue growth of that principle. The present bill therefore provides for both members of unions and those outside of unions to approach the court to settle industrial disputes. The boards are constituted for every branch of industrial life, and they are available for the redress of grievances of any body of men.

Strict conditions are provided for the enforcement of penalties; fine or imprisonment for strike or lockout, or for wrongful dismissal, and further, that when a person has been convicted of a strike, and was at the time of the offense a member of a trade or industrial union, such union shall be responsible in money for the individual's conduct, unless it can be shown that the union had taken all reasonable means to prevent any of its members doing anything in the nature of a strike. This provision applies equally to employers who may be guilty of a lockout.

Finally, provision has been made for the board or Industrial Court, at any time, before or after making an award, to require from the person or union applying security for observance of the award. The bill has been agreed to by practically all of the members of Parliament.

AUSTRIA.

PROVISIONS OF THE EMPLOYEES' NEW COMPULSORY INSURANCE LAW.

Consul Charles B. Harris, of Reichenberg, transmits a translation of a law for the compulsory insurance of private and certain public employees in Austria, which will take effect on January 1, 1909.

The law provides for the creation of a fund for the payment of annuities to incapacitated or retired private and certain public employees and the total annual payments to be paid by the employer and the employee.

Persons not obliged to insure are: Those who have secured positions after their 55th year; those who, owing to former service, are already enjoying invalid or old-age annuities, etc.; persons employed outside the limits of this law; employees of traffic railroads, the adjusting of whose claims for insurance is to be provided for by the ministry of railroads.

Persons who are required to insure are: All persons who have completed their 18th year who, from one and the same employer, receive a monthly or yearly wage amounting to at least 600 crowns (\$121.80) a year, and also all public employees, having no fixed claims for state, invalid, or old-age pensions, as well as all pensions in favor of their heirs. Employees are, however, not considered who render the following service: Persons engaged in the production of goods and rendering physical labor in the broadest sense, mining, agricultural, and factory workmen, apprentices, and servants; those to whom the domestic-employment law finds application, or who entirely, or almost so, render domestic service. [The law in its entirety is on file in the Bureau of Manufactures.]

AGRICULTURE.

SEEDS AND SEED OILS.

FRANCE.

TRAFFIC IN PEANUTS AND ITS RELATION TO AMERICAN INDUSTRIES.

Consul-General Robert P. Skinner, writing from Marseille, discusses the peanut trade at that French port with reference to the edible oil industry:

It is a popular error to suppose that the United States is in a position to supply peanuts, or arachides, as they are called in this country, for the Marseille crushing trade. The demand for the roasted nut is so great in America that after consuming its own crop, the United States imported \$2,967 worth of African nuts from Marseille in 1906 and \$73,631 worth in 1907.

As to peanut oil, the declared value of such oil exported from Marseille to the United States in 1907 was \$17,006; in 1906 \$14,526, and in 1905 \$12,695. The total importation of peanuts in Marseille has varied thus during the last three years:

Description.	1907.	1906.	1905.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Arachide kernels.....	113,219	111,158	96,649
Arachides in shell.....	123,804	78,677	56,081
Total.....	236,523	189,835	152,680

For a great many years Marseille has been the chief oil-producing center of the world, and its favorable situation with respect to Africa and India has made it possible to find a ready market here for all oil-yielding materials from the regions named. To what extent the developing West Africa coast will be able to increase its exportations is speculative, but there is every reason to anticipate a gradual upward movement in figures already great, since in a total importation of 236,523 tons in 1907 the West Coast provided 119,242 tons, and these chiefly of the most highly reputed grades.

COMPARATIVE NUT PRICES—OIL YIELDS.

The prices of the African nuts in the shell were \$55.90 per ton on May 8 and were about that throughout 1907. In 1904 the average prices were about \$44.39 per ton. Prices have been generally upward for some years, in sympathy with the world-wide demand for edible greases and oils of all descriptions. These are the facts as they stand, and it remains to be ascertained whether the American farmer can profitably increase his crop of peanuts to such an extent as to permit the creation in the United States of an oil-crushing

industry for the manufactured product of which the demand is not open to question. This is a matter for the South to determine, and in the writer's opinion the answer should be affirmative. There is no great difference in the manner of manufacturing peanut and cotton oil. As numerous mills already exist in the South for crushing cotton seed, it would require no special industrial organization to take up a large crop of peanuts if the farmers found it advantageous to raise them.

It should be borne in mind that the African oil nut crushed in Marseille is not the same variety as that grown in the United States; while the African nut is less delicate as a food product, it yields more generously in oil, and is said to be more easily crushed. Tests have been made with American nuts, both in the United States and in France, and the results as to yield in oil have always demonstrated the supremacy of the African nut.

DEVELOPING NUTS FOR OIL—CURRENT PRICES.

The probabilities are that with a little scientific attention, it would be quite easy to develop an American peanut yielding well in oil and possessing the excellent taste of the present types. A nut must be developed that will give 32 to 33 per cent of its weight in oil.

It is true that African peanuts yield a very high grade oil, but not equal to pure olive oil (which remains and probably will remain, the highest priced and most perfect of all salad oils). However, peanut oil is a very acceptable substitute for olive oil, and susceptible of being sold on its own merits as a superior article.

The best or edible grades of Marseille peanut oil always command higher prices than any other oils except olive, and were quoted on May 8 at \$17.37 to \$19.30 per 220 pounds (100 kilos), while the best American prime summer yellow cotton oil was quoted at \$12.93 per 220 pounds. These figures give the present measure of popular appreciation of the relative qualities of the two oils. Both peanut and cotton oils are sold straight, and are also used for mixing purposes.

ITALY.

OPPORTUNITY IN SICILY FOR AMERICAN COTTON-SEED CAKE.

From careful inquiries made in the Messina district of Italy, Consul Arthur S. Cheney says that it appears possible to find a limited market for American cotton-seed oil cake. He writes:

Full information should be sent to this consulate about this article and, as it is entirely unknown here, a sample, sufficient to at least offer a small demonstration, would be desirable. For the sake of comparison with other articles used as fodder here the wholesale prices of these in the local market per quintal of 220 pounds are herewith given: Hay, \$5; straw, \$0.96 to \$1.35; oats, \$4.05; corn, \$3.28 to \$3.86; bran, \$2.70 to \$3.28; beans, \$3.47.

The problem of finding sufficient fodder for the cattle and large numbers of goats and donkeys in this district is sometimes very difficult. There are only a few milch cows kept here, but oxen are largely used for heavy draft work. In place of cows numerous flocks of goats give practically the entire milk supply for this city, the animals being driven through the streets every morning and evening and milked at the customers' doors.

I am informed that a compact article of fodder, to be used as a partial substitute for present articles, would be well received here. Direct shipments may be conveniently made from New York or Boston to this port by the Navigazione Generale Italiana, the Sicula Americana, or the Creole Line.

A hay and grain merchant of this city [name obtainable from Bureau of Manufactures] is prepared to endeavor to introduce cotton-seed oil cake to probable consumers here as soon as he is in possession of full information concerning its use, price, etc.

SWITZERLAND.

COTTON-SEED OIL IN COMPETITION WITH SESAME AND PEANUT OIL.

Replying to an inquiry as to the use of cotton-seed oil in the Zurich district, Consul A. Lieberknecht writes:

According to my own knowledge, and information received from leading oil firms here, the use of that oil, or any other oil, for cooking purposes is almost unknown in the eastern part of Switzerland. However, it is used to a great extent in the manufacture of butter—about 1,200 to 1,500 barrels annually in my consular district alone, as stated by one of the leading oil importers here. Of this probable quantity, sesame oil and peanut oil are taking the larger share, they being slightly preferred. Market opportunities for cotton-seed oil are only when it can be had at a little lower price than for the other two named. The oil importers are very willing to handle cotton-seed oil, but some of them claim that they are often disappointed in having their orders filled in proper time, while the other oils are always promptly delivered. The importers here receive their shipments of cotton-seed oil from New York houses and from the large import firms at Continental seaports.

[Names of oil importers of Zurich may be obtained from the Bureau of Manufactures.]

UNITED KINGDOM.

SCOTLAND'S GROWING IMPORTS OF COTTON SEED FOR LOCAL CRUSHING.

In his annual report for 1907 Consular Agent William P. Quann, of Aberdeen, furnishes the following about cotton seed and its products:

There has been a steady increase in the importation of cotton seed from Bombay and Egypt. Until last year no record of it was particularly itemized at the local harbor office, it being classified with other seeds, but the increasing demand for this product has led the authorities to give it special mention, and for the year ended September 30, 1907, 5,281 tons of cotton seed, in the undecorticated state, was received at this port. There are two mills in this district employed in the crushing of cotton seed and another is in course of construction. The oil is growing in demand among bakers and others, who use it in place of lard, and the locally manufactured oil cake, being similar to that originally obtained from America, is gaining popularity as a cattle food. The demand for American cotton-seed cake, at one time very considerable, has now almost entirely disappeared, as it is complained that it has become so hard and dry in recent years as to be of little use for feeding purposes.

ASIATIC TURKEY.

THE PRODUCTION, USE, AND CONSUMPTION OF SESAME SEED.

The following information concerning sesame seed, where produced and where consumed, is furnished by Consul Ernest L. Harris, of Smyrna:

Sesame seed is one of the staple products of the Turkish dominions, and is exported to Europe in large quantities. Smyrna and the neighboring districts produce annually about 50,000 sacks of 100 kilos (220 pounds) each; Rhodes and the islands of the archipelago, some 30,000 sacks.

Smyrna seed, which is white in color, containing only about 10 per cent of yellow sesame, sells a cent or two more per oke (2.82 pounds) than the seed from other districts, as the oil extracted is clear and has a better smell and taste. Sesame seed from Rhodes and the islands of the archipelago is heavy in weight and gives the largest yield of oil. Indian sesame seed, although inferior to the Turkish product in appearance, quality, and yield of oil, finds a market in Europe when the Turkish crop is small and prices run high.

EXPORTS TO OTHER COUNTRIES.

A large quantity of the crop is used locally in the preparation of "taheen," which is the crushed seed mixed with the oil. Taheen is chiefly used in the preparation of "halva," a sweetmeat consumed largely throughout Turkey in the winter season. Of late years taheen is being exported to the United States, where it is used probably in the manufacture of halve or eaten raw by natives of these regions living in the United States.

The importing countries are chiefly Russia, Germany, Holland, Austria-Hungary, and France. The conditions of sale are cash against documents, for seed containing not more than 4 per cent of foreign matter, gross for net, in double sacks, f. o. b. shipping port.

Several Smyrna exporters sell for delivery. This manner of transacting business sometimes occasions great losses to the exporters. Last year, for instance, the crop was so small that the market price was nearly 50 per cent higher than average years, so that merchants had to lose heavily in fulfilling their contracts.

BRITISH INDIA.

THE CULTIVATION OF PEANUTS A SOURCE OF WEALTH IN BURMA.

Consul-General William H. Michael, of Calcutta, reports that the cultivation of peanuts in Burma is fast becoming recognized as a source of wealth to the province. In 1903 the area devoted to peanut cultivation was only 3,800 acres, in 1907 it was nearly 80,000 acres.

The districts whose soil is unsuited for any other crops seem well suited to the cultivation of peanuts, which seem indifferent to all but extremes of climate. Although it is still premature to predict the possibilities of the province as a producer of these nuts, the strides which its cultivation has made in a few years lead to the conclusion that the possibilities are likely to be very great.

FLORICULTURE.

GERMANY.

ERFURT'S EXTENSIVE SEED AND PLANT INDUSTRY.

Writing from Weimar, Consul Will L. Lowrie says that Erfurt, a thriving commercial city of southern Prussia, with more than 100,000 inhabitants, is known throughout Germany as the "flower city." It has a world-wide reputation for flower and farm seeds and plants, the trade in which the consul portrays as follows:

The declared exports of these products to the United States in the last ten years amounted to \$561,741, last year's shipments being worth \$53,888.

The origin of the industry dates from the tenth century, and it was developed by the monks of the Peters monastery. The growth to the present large proportions is of much more recent date. Since 1880 the business of raising flower and garden seeds and plants in Erfurt has increased rapidly, until it is now five times as large as it was a quarter of a century ago. When the land failed to produce good wine grapes, the people turned their attention to the seed industry as a means of saving their waning fortunes. In former years the hills about Erfurt and Jena were famous for their vineyards. The wine was sold mostly at Weimar, about halfway of the distance between those two cities, giving this place its original name of "Weinmarkt," which was changed later to Weimar.

EXTENT OF INDUSTRY—WAGES PAID.

The soil about Erfurt is especially adapted to the culture of vegetables and plants. It is deep, rich, and well watered. The annual rainfall is heavy, and the surrounding hills afford good protection from the cool winds which sometimes sweep down from the Thüringerwald. There are 108 concerns engaged in the seed industry, also 35 seed exporters and 24 florists. An idea of the extent of this business may be gained from the area of glass employed. The total is 113,735 square meters (square meter=10.764 square feet), of which 30,867 square meters cover propagating houses and 82,858 square meters are used over specially fertilized beds. Nearly 3,000 people are employed in various capacities.

While there are no statistics available in regard to the total annual output of the Erfurt seed and plant concerns, a single firm produces each year 70,000 to 80,000 cyclamen, 400,000 lilies of the valley, 60,000 apple sprouts (in pots), 20,000 pear sprouts, 10,000 plum, apricot, peach, and quince sprouts, 30,000 strawberry plants, 300,000 short-stemmed and 40,000 long-stemmed roses. This concern has a dozen large hothouses and sales rooms, packing rooms, blacksmith shop, carpenter shop, and bindery where the cut flowers are arranged and the dried plants and mosses are put together in wreaths or bundles.

Garden products raised in Erfurt may not be peddled in the city. This business is mostly of an export nature to various parts of Germany. The annual shipment of cauliflower amounts to 6,600,000 pounds.

Compared with the standard in the United States, the wages in Erfurt are small. A superintendent receives annually 3,000 to 4,000 marks (mark=23.8 cents), a technical man 2,000 to 3,500 marks,

office superintendent 900 to 2,000 marks. Experienced workmen are paid weekly and receive 800 to 1,800 marks a year. Inexperienced men receive 800 to 1,000 marks and the same class of women labor from 500 to 600 marks. Women employed in the binderies are paid 700 to 800 marks a year.

Office men work from 7 to 12 a. m. and from 2 to 6 p. m. The working hours for the other employees are, in summer, 6 a. m. to 7 p. m.; winter, 7 a. m. to 7 p. m.; rest periods are one-half hour for second breakfast (Germans take only coffee and rolls early in the morning and eat a heartier meal later on), one and a half hours at noon, and a half hour at vespers.

GARDEN LAND—VARIETIES OF SEEDS.

About 2,000 acres of land in the city and the immediate vicinity are devoted to gardens. This land is owned by the Crown, the city, and private individuals. It is leased to the various concerns at rentals depending on the location and on the productiveness of the soil. Owing to the rapid growth of the city, which rivals the percentage of a Western "boom" town in the United States, quite an area of the best garden land has been plotted into city lots and is fast being covered with fine villas and houses.

The cultivation of the gilly flower in Erfurt dates from 1810. It first appeared in the window of a citizen, and from this one pot hundreds of thousands of these flowers have been propagated. The estimated annual production is 680,000 plants. To the same extent, or nearly so, is the cultivation of the calceolaria, verbena, petunia, gloxinia, zinnia, pansy, carnation, balsam, phlox, hollyhock, pelargonium, fuchsia, azalia, etc., in almost endless variety. It is estimated that the annual output of flower seeds is not much under 1,000,000 marks (\$238,000).

Vegetable and farm seeds are cultivated in large quantities and in great variety. Among them are included 101 kinds of peas, 168 of beans (700 bushels shipped this year to Boston to help make up the deficit in its staple food), 269 varieties of kitchen herbs, 38 kinds of radishes and 30 of other roots, 34 of onions, etc., 65 of grass for fodder, 30 of clover, 320 species of potatoes. There are 1,542 varieties of vegetable seed cultivated in Erfurt.

PRESERVATIVE QUALITIES OF FERNS.

EUROPEANS SUCCESSFULLY USE THE LEAVES IN MANY WAYS.

Consul-General Richard Guenther, of Frankfort, advises that a newspaper of that German city states that the fern plant, which grows almost everywhere, is an excellent preservative for packing articles of food, fruit, etc. A summary of the article follows:

People who have lived in England know that the English have used it successfully for many years. Valuable fruit, fresh butter, etc., are no longer seen in the English markets packed in grapevine leaves, but almost always in fresh fern leaves, which keep the articles excellently. This is done where grapevine leaves are to be had in abundance. Everyone posted well in botany knows the high preservative power of fern leaves with reference to vegetable and animal substances.

On the Isle of Man fresh herrings are packed in ferns and arrive on the market in as fresh a condition as when they were shipped. Potatoes packed in ferns keep many months longer than others packed only in straw. Experiments

made with both straw and fern leaves in the same cellar showed surprising results in favor of ferns. While the potatoes packed in straw mostly showed signs of rotting in the spring, those in ferns were as fresh as if they had just been dug.

Fresh meat is also well preserved by fern leaves. It would seem as if the highly preservative qualities of fern leaves are due to their high percentage of salt. No larvæ, maggots, etc., approach ferns, as the strong odor keeps them away.

BRAZIL.

PURCHASE AND SHIPMENT OF ORCHIDS FROM THE TROPICS.

According to Consul-General George E. Anderson, of Rio de Janeiro, there seems to be considerable activity in the orchid exporting business of Brazil, and the United States has a great portion of the increased business. He continues:

So far there has been no great volume of exports of live plants of various sorts from Brazil, although there is a constant but small business in the export of young palms and palm seeds. In the line of orchids there are a number of firms operating in the several coast ports of the country, buying plants, as they may be secured in the interior and selling them as opportunity offers, generally at the present time on a commission and consignment basis. From time to time several of such firms send men into the interior to secure specimens, but at present most of the goods are coming down to the coast apparently as a result of previous work on the part of the hunters. One of the leading American houses making a specialty of orchids has had a man in the interior ranging over a wide stretch of country. His work has been very successful and the shipments of his goods account for much of the increase now noted.

METHODS OF HANDLING AND PRICES OBTAINED.

Most of the orchids taken in the past have been shipped to England, where there are a number of great houses doing a world-wide business in such plants alone. The increased interest in them in the United States has followed largely from European interest. While the plants are somewhat difficult to handle with safety in a commercial way there is comparatively little loss from damage in transit. Sometimes the plants are packed in baskets, an average of about a hundred in each. Other firms ship them in specially constructed cases with much larger lots in a case. The average value of the shipments out of Rio de Janeiro is substantially 20 cents a plant in Rio de Janeiro harbor. The number of the finer and rarer varieties secured and shipped is comparatively a small item in the trade, the standard varieties forming the vast bulk of the business.

There are something over 6,000 varieties of orchids recognized and described by the authorities in the botanical gardens of Rio de Janeiro. A very large portion of this list of plants is composed of varieties which have little or no value from any standpoint. Some varieties are very common, while a great many of them are rare enough to command from \$15 to \$30 here in Brazil. Other varieties are very rare and the value of specimens is mostly fixed by what collectors will pay for them, varying greatly from time to time. Probably three-fourths of the business, in value, is in less than a dozen varieties of the plant.

NETHERLANDS.

THE GROWING OF TULIPS AND HYACINTHS A PROFITABLE INDUSTRY.

Consul-General S. Listoe, of Rotterdam, makes the following interesting statements in regard to the rapidly growing Dutch bulb trade:

An industry characteristic of the Netherlands is the raising of tulip and hyacinth bulbs. Attempts have been made in several parts of the world to grow these, but nowhere can the experiment be said to have been successful, as the proper kind of soil for the propagation of perfect bulbs seems only to exist in the small space of territory between the cities of Leyden and Haarlem. This stretch of country is in reality the bottom of the old Haarlem Sea (Haarlemmer Meer), which was laid dry about the year 1852, and this sea-bottom dirt, a combination of sand and decomposed vegetables and plants, appears to be the only soil capable of producing the flower bulbs mentioned.

These bulbs are therefore exported to all parts of the world, the United States taking its full share; the demand is constantly increasing, and in consequence of this fact an increased area is from year to year set apart and devoted solely to the cultivation of bulbs. The statistics for 1906, the latest available, give this area as 4,058 hectares, equal to 10,027 acres.

The exports of bulbs and bulbous roots from the Netherlands in 1907 amounted to 33,610,280 pounds, of which 6,214,120 pounds, valued at \$531,098, went to the United States. In 1906 the total exports were 26,180,000 pounds, the shipments to the United States being 5,098,940 pounds of a declared value of \$536,242; the relative figures in 1905 were 25,640,340 pounds total, and 4,413,640 pounds, worth \$417,611, to the United States.

The best customer for the tulip and hyacinth bulbs of the Netherlands is the United Kingdom, which purchased 13,950,200 pounds in 1907. Germany and Austria together bought 8,728,720 pounds, Norway, Sweden, and Denmark 2,307,360 pounds, and Russia 793,100 pounds.

As an indication of the growth of this branch of Dutch agriculture, and as a demonstration of the regular increase in the demand for Dutch bulbs, it may be stated that the exports in 1897 were only 12,543,955 pounds. The advance since that time has averaged over 2,000,000 pounds a year.

TURKISH OLIVE INDUSTRY.

CULTURAL AND HARVESTING METHODS IN CONSTANTINOPLE DISTRICT.

Consul-General Edward H. Ozmun writes that in the consular district of Constantinople the Turkish Vilayet (Province) of Broussa, on the southern shore of the Sea of Marmora, is the great olive-producing district. He describes this industry as follows:

About one-fourth of this Vilayet is interested solely in the culture of olives, viz, on the east the coast of the sea of the archipelago, to the north the whole coast line of the sea of Marmora; also the districts between Ghemlek, in the Gulf of Moudania, to Nicea. The natives distinguish 6 varieties of olive trees, of which 3 are wild and 3 grafted. The wild trees produce only after the eighth year but last several centuries, some being said to have existed a thousand years.

The wild tree, planted in January to March, is grafted in the month of May of the following year. The graft is made either on the trunk or the eye, the latter method giving better results. The grafted trees are transplanted and bear after the fifth year.

Olive crops are erratic, and although a full crop is expected every alternate year, there is often an absolute failure in some localities, whereas in others the trees are loaded with fruit. In this country it is said to depend entirely on how and where the olive groves are situated and whether the trees are exposed or protected from the "sirocco," or south desert wind; when prevalent this wind affects man, beast, and bird, as well as plant life.

LOCATION IS IMPORTANT.

Olive trees flower in May, and should the groves be exposed to the south there is always danger till the end of August, especially if the summer is dry and the south wind prevails, of the bloom being coated with a fine white web, a nest of microbes, which encircles the flowers and causes them to gradually shrivel up and ultimately drop off, the result being either a poor crop or none at all. If, however, the trees are protected on the south, and exposed to the north, they not only thrive and are healthy and strong but, as a rule, annually bear more or less fruit. (These observations, however, only refer to this climate, and olive growers of California must conform to their own climatic conditions.)

Careful growers place the trees in a position to avoid exposure to the hot winds that prevail during the period they are in blossom, in squares and at least 9 or 10 yards apart, and in such a way that from whatever point one looks they are always in a straight line. Should they be planted closer, in time as they grow older and stronger the branches become entangled with each other, to their disadvantage.

COMPARATIVE TESTS—CAREFUL PRUNING AND CUTTING.

Experiments in certain olive-growing districts have demonstrated that in a hectare ($2\frac{1}{2}$ acres) of soil, planted respectively with 250, 100, or 50 trees, the yield of oil was the same, but of superior quality in the case of those planted wide apart, and furthermore such trees were almost free from disease. Air and light seem essential elements to successful olive culture.

Pruning should be done immediately after each crop has been gathered. This refers only to trees of from 7 to 8 years and upward; younger ones are on no account to be pruned, with the exception of the shoots that annually spring from the roots and round the bottom of the trees, which are cut away every year. On the older trees all shoots that turn inward or toward the center are carefully and cleanly cut off, and the shoots from the roots likewise removed annually. Rot appearing on the roots and branches of the trees is cut away, care being taken to thoroughly remove all diseased parts of the trees.

The ground each year is carefully stirred at least 2 feet deep and a yard in width round each tree, care being taken that the roots are not left exposed, but covered over. Thus the earth becomes loose and absorbs the rain, which penetrates to the roots and keeps them moist; whereas if this is not done or the culture be shallower the earth soon becomes dry and hardens and the rain fails to penetrate to the roots,

which are deprived of the moisture so requisite to sustain the trees in dry and sultry weather, causing the fruit to drop off.

The groves are cultivated over once a year at least 12 inches deep; two months later the land hoed, and this repeated two months later. If the summer be dry, with no hope of immediate rain, the soil round the trees is opened out for about 18 inches and 10 gallons of water given to each tree. This refreshes them and prevents the olives from dropping off. The watering, however, is never done in the morning when the sun is on the trees, but always in the afternoon, the later the better; and the ditches are allowed to remain open for forty-eight hours, after which the soil is replaced.

FERTILIZATION AND HARVESTING.

Manuring is only done once every three years, and the fertilizer placed all round but at least a yard from the trunks. This is done in September and allowed to remain until the following March, when culture works it in to the soil. Olive trees thrive best in rich and soft soil, the more virgin the better.

Harvesting generally commences in late November or early December, lasting until Christmas or later, according to the size of the crop, the method being as follows: A cloth or matting is placed on the ground around the tree; then as many persons as the tree has branches get into it, generally by ladders, and each one taking a branch pulls the fruit-bearing twigs through their hands, careful not to break them, and letting the olives fall to the cloth or matting below.

The daily wages for adults range from 24 to 28 cents, and each person can gather about 60 okes (oke=2.8 pounds) of olives a day. The hire of a horse or mule per day costs 40 cents, and each animal should carry about 600 okes of fruit per day. This, with the cost of gathering and other sundry expenses, such as mending baskets, etc., brings the total cost of harvesting to about 7 paras the oke, or \$5.55 per ton.

DISPOSITION OF FRUIT.

Of the olive trees in this district about 20 per cent are under seven or eight years old, the remaining 80 per cent being matured trees. The latter as a rule bear fruit annually, but the crop is more abundant every second year, the quantity obtained being from 10 to 120 okes, according to age and size.

Only about 10 per cent of the crop is crushed for oil, the olives used for this purpose being partly green and which have dropped from the trees before being ripe; the remaining 90 per cent is pickled or salted. Green olives are not generally gathered for pickling, unless ordered, though every proprietor usually gathers sufficient for family consumption.

The cost of pressing the olives is 5 paras the oke, or 100 piasters (\$4.07) per ton; but this is not the total cost, for according to custom the millers retain the residue. Of the latter only a small portion is used by the millers as fuel, the greater part being exported to Great Britain; the price paid on the spot for the residue is 4 paras the oke, or 80 piasters (\$3.26) per ton.

The quantity of oil obtained depends on the size and quality of the olives to be crushed. In some instances $3\frac{1}{2}$ pounds of olives yield 1 pound of oil; in other cases it requires 8 pounds of fruit to produce

the same quantity of oil; thus from 283 to 650 pounds of oil are obtained from 1 ton of olives.

OIL PRICES—PICKLING METHODS.

The price of olive oil has for years past ranged from 4 to 6 piasters (16 to 24 cents) the oke, or from \$130 to \$195 per ton. This season, however, it rose to 8 piasters (32 cents) the oke, or \$260 the ton.

For pickling or salting olives properly for every 100 pounds of fruit 100 pounds of dry salt must be added. In pickling the barrels are placed in the position where they are to remain, though in no case should they touch the ground or floor. The bottoms are covered with a layer of dry salt; on this a layer of 100 okes (283 pounds) of olives is placed. Ten okes (28.3 pounds) of dry salt is spread over the fruit, and so on alternately until filled. A mat is placed on the top layer (which must always be of salt), then boards (that will easily enter), and on these stones or any other heavy material weighing at least 12½ hundredweight are placed. Should this precaution not be taken, the olives will rise to the top of the barrel, become dry; and spoil.

A basket containing 56.6 pounds of dry salt is placed on the top of each barrel and sea water, if obtainable, poured over the salt in the basket until filled with brine.

It is essential that the barrels containing the pickled fruit should be examined every fifteen days, and should it be found that the olives are not covered with brine, the same operation is repeated until the barrels are refilled; otherwise the fruit becomes "fusty" and useless.

Should sea water not be obtainable, a large barrel is filled with fresh water, to which dry salt is added and stirred until the brine becomes of the required strength. This latter is ascertained by placing an olive or a fresh egg in the liquid; should it sink, it is evident that more salt is needed and should be added and the liquid stirred until the object rises to the top and remains floating on the surface, a sure proof that the brine is of the required strength. As a rule, a large barrel of such brine is always kept in stock, which saves time and trouble.

DUTCH EAST INDIES CROPS.

ISLANDS' PRODUCTION OF COFFEE AND SUGAR LAST YEAR.

Consul B. S. Rairden makes the following report from Batavia on the production of coffee and sugar in the Dutch East Indies during the past three years:

The Java sugar output in 1907 amounted to 1,282,705 tons, against 1,133,525 tons in 1906 and 1,110,459 tons in 1905. Soerabaya is the largest producing district, turning out 286,296 tons last year, an increase of 42,764 over the previous season. Probalingo advanced from 160,288 to 186,459 tons and Djocjakarta from 89,562 to 103,841 tons.

A large reduction in the coffee crop of the islands of Java and Sumatra for last year is shown in the following table:

Variety.	Private.			Government.		
	1905.	1906.	1907.	1905.	1906.	1907.
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Java.....	23,747,928	35,958,808	15,492,576	14,307,432	22,215,464	5,804,816
Liberia.....	13,047,620	11,142,072	13,710,432	2,005,822	2,598,008	2,439,004
Total.....	36,795,548	47,100,880	29,203,008	16,313,254	24,813,472	8,243,820

IRRIGATION PROJECTS.

FORMOSA.

LARGE EXPENDITURES TO BE MADE TO BENEFIT AGRICULTURE.

In reply to a communication from the editor of a Manila journal concerning irrigation in Formosa, Consul Julean H. Arnold, of Tamsui, transmits a report, from which the following information is taken:

The irrigation works which begin this year, and which will extend over a period of eighteen years, involve an expenditure of nearly \$15,000,000.

The problem of irrigation is chiefly concerned with the plains which make up the western half of Formosa. With a proper system of irrigation, the southern half of the western lowlands should be able to supply Japan with all the sugar it consumes, about 500,000 tons, which is sevenfold the amount now produced in this island, and with the same proper system it is estimated that the island's present rice fields could produce 50 to 75 per cent more than is now produced, in addition to which 100,000 acres, now nonproductive for lack of irrigation, could be converted into rice fields.

The chief of the bureau of public works states that the works now contemplated provide for an expenditure of 22,544,000 yen (\$11,226,912) for canals and reservoirs; 3,769,000 yen (\$1,876,962) for power stations; 123,050 yen (\$61,279) for expenses and surveys; 200,000 yen (\$99,600) for buildings; 3,363,950 yen (\$1,675,247) for salaries; total, 30,000,000 yen (\$14,940,000).

IMMENSE DAMS TO BE BUILT.

In addition to twelve main canals, of an aggregate length of 295 miles, a dam of 90 feet high and 1,800 feet in width will be constructed on the upper Taikokan River, where it will be possible to store 7,000,000,000 cubic feet of water, and near the mouth of the lower stream another dam will be constructed, from which will lead a canal 45 miles in length. A dam 90 feet in height and 1,140 feet in width will be constructed in the upper course of the Nisoko where 3,270,000,000 cubic feet of water may be stored, and from which a canal 50 miles in length will lead. These two dams will provide sufficient water to irrigate 48,000 and 50,000 acres, respectively. The main canals will aggregate 390 miles in length, and the branch canals 1,560 miles. The total area to be irrigated will be 286,383 acres.

It is estimated that after ten years the government's annual revenue from water taxes, charges for electric power, and land taxes will be increased to 1,880,000 yen (\$936,240) as a result of these irrigation works, and that at the end of twenty years, at which time the entire works will be completed, to 3,470,000 yen (\$1,728,060). The aggregate receipts for the twenty years, beginning with this year, are estimated at about 38,000,000 to 39,000,000 yen (\$18,924,000 to \$19,422,000).

OTHER PUBLIC WORKS UNDER CONSTRUCTION.

Besides irrigation works, there are many public works now being constructed.

In north Formosa: Keelung, harbor improvement to cost \$3,000,000; waterworks for Taihoku, \$946,000, and an electric generating

plant at the same place, \$731,000; construction of buildings for the Formosa Central Laboratory, \$256,000; Agincourt Island light-house, \$111,000; building for middle school for Japanese, \$92,000.

In south Formosa: Takon, harbor works, \$2,357,000; railway extension work, \$996,000; post and telegraph office at Tainan, \$51,000. On the Taito Railway \$2,120,000 will be spent during the next four years, and the Formosan Government railways will spend \$1,245,000 during the next two years in construction work.

[Further details and photographs of the irrigation works of Formosa, which were furnished by Consul Arnold, may be consulted at the Bureau of Manufactures.]

MEXICO.

SUBSIDIZED IRRIGATION CONTRACTS SIGNED BY THE GOVERNMENT.

The first contract made by the Mexican Government under the new irrigation law since its enactment, according to the Mexican Herald, has just been signed by Minister Olegario Molina, of the fomento department, and Diego Redo, of Mazatlan, who obligates to build all the necessary works for the use of the waters of Rio San Lorenzo in the State of Sinaloa, sufficient to irrigate an area of 10,000 hectares (hectare=2.47 acres) of land within ten years. Each hectare to be supplied with not less than 10,000 cubic meters of water per year. The Government will grant a subsidy of \$25 (\$12.50 gold) per hectare of irrigated and cultivated land.

BRITISH INDIA INDIGO.

THE PLANTERS ARE HOPEFUL OF SAVING THEIR INDUSTRY.

In supplying the following information concerning the protection of indigo in British India, Consul-General William H. Michael, of Calcutta, reports that while the crop of 1908 is not as encouraging as it might be, the hope of saving the industry is not lost by the planters.

The total amount of indigo marketed in the fiscal years ended March 31, 1907 and 1908, was 2,240,000 and 2,180,000 pounds, respectively. These figures show a falling off of 60,000 pounds in the fiscal year 1908, but the season was droughty for all crops, and but for irrigation the indigo crop would have been a complete failure.

The strike on the East Indian Railway interfered with prompt delivery of indigo in the Calcutta market, and sales were therefore limited. In fact the large Russian demand went by, and buyers for that country went to the London stock, thus causing the prices, which were good early in the season, to depreciate. The planters were therefore driven to the necessity of shipping to London and consigning to their own account. The demand of England and the United States for middling quality slackened, as did also the continental demand for high-grade indigo, and as a consequence the India producers were placed in an unfortunate position.

The experience of indigo planters satisfies them that, for the present at least, the demand for natural indigo will be for purposes to which the synthetic dye can not be applied. During the six years ended March 31, 1908, the decline in the amount of indigo exported

from India was 80 per cent in quantity and 84 per cent in value—from 8,975,000 pounds, valued at \$6,174,188, in 1902, to 2,180,000 pounds, valued at \$2,334,924, in 1908. Despite this great falling off, however, the indigo planters are hopeful. The belief is prevalent among them that careful selection of seed, improved methods of cultivation, and a more scientific method of extracting the indigo will enable them to undersell the artificial article and thus restore the product to its former importance.

WORLD'S COTTON PRODUCTION.

SLIGHT DECREASE SHOWN IN THE OUTPUT FOR LAST YEAR.

The cotton production of the world for mill consumption is covered in statistics issued by the Census Bureau. The output in bales of 500 pounds each was 16,512,185 in 1907, compared with 19,942,000 for 1906, with 15,747,000 for 1905, and 18,803,000 for 1904. The details for last year are as follows:

Country.	Bales.	Country.	Bales.
United States	10,882,385	Turkey	80,000
British India.....	2,444,800	Peru.....	55,000
Egypt.....	1,296,000	Persia	51,000
Russia	620,000	Other countries.....	200,000
China.....	428,000		
Brazil	370,000		
Mexico	85,000	Total	16,512,185

TOBACCO.

CULTURE AND MARKETS.

NETHERLANDS.

REDUCED PURCHASES OF AMERICAN LEAF—SOURCES OF SUPPLY.

Consul-General Soren Listoe, writing from Rotterdam, describes present conditions in the vast Dutch tobacco business in which American interests are largely concerned, our imports from the Netherlands last year, consisting mainly of Sumatra wrappers, being over \$8,000,000 in value and our sales there being also considerable. Mr. Listoe writes:

The consumption in Holland of the various kinds of American tobacco in hogsheads can only be estimated, official statistics thereof not being kept, and several manufacturers importing tobacco for their own use, of which transactions no record appears. [The exportation of unmanufactured tobacco from the United States to the Netherlands during the past three calendar years has been as follows: In 1905, 20,351,773 pounds, valued at \$1,213,341; in 1906, 20,332,611 pounds, valued at \$1,433,253; and in 1907, 17,844,143 pounds, valued at \$1,314,218. A further decline in shipments to the Netherlands has occurred this year, the amount going forward up to May 1 being 3,733,019 pounds, worth \$265,078.—B. of M.]

The consumption of Maryland tobacco has lately fallen off considerably. According to the particulars which have been furnished me by one of the largest tobacco brokers in Rotterdam, and which are very nearly accurate, I should judge that against about 10,000 hogsheads of Maryland in 1905, there now stands about half that quantity. The consumption of Virginia is rather small, being estimated at 1,500 hogsheads, and of Ohio next to nothing.

CONSUMPTION OF BURLEY DECLINES—JAVA SUPPLIES.

Of burley the consumption was considerable as long as the prices were in keeping with those of other light-colored tobaccos, but is now very much reduced and probably does not much exceed 1,500 hogsheads of burley and Kentucky together.

The great rise in prices of Maryland tobacco and also of burley has induced manufacturers all over Europe to look for substitutes, which are to a certain degree not very difficult to find, Eastern Colony varieties as well as Paraguay being largely used for burley, while for Maryland a great substitute is found in Java tobacco.

Of this latter variety there was twenty years ago (in 1888) imported into Holland 138,000 bales, ten years later (in 1898) 266,000 bales,

and since then this importation has continually increased. In 1907, 516,000 bales were imported, while this year the imports will reach nearly 600,000 bales, over 400,000 bales having already been sold. Java tobacco consists partly of cigar tobacco and partly of cutting tobacco, the proportion last year having been about 186,000 bales of the cigar-class goods, wrappers and bunch, which realized $47\frac{1}{2}$ Dutch cents per half kilo (kilo=2.2 pounds), equal to 19 cents American per 1.1 pounds; and about 330,000 bales of the common varieties used partly for cheap fillers but mostly for cutting purposes, these classes having realized $19\frac{1}{2}$ cents Dutch per half kilo, equal to nearly 8 cents American per 1.1 pounds.

The cost of production varies according to the different districts in which the tobacco is raised. In some districts where the better cigar tobaccos are grown there are large plantations which provide the seed and pay the natives a certain amount per 1,000 plants, grown mostly under supervision of European managers who further ferment, assort, and pack the tobacco for export. In the other districts very little care is taken, the natives growing and drying the tobacco and selling it mostly to Chinese buyers, either employees of European firms which ship the tobacco to Holland, or buying it for their own account and giving it to Java firms for consignment to Holland. The cost of production of these tobaccos must be very small, inasmuch as the prices obtained in Holland during the last five years were respectively $19\frac{1}{2}$, 18, 17, $17\frac{1}{4}$, $15\frac{3}{4}$ cents Dutch per half kilo, which prices appear to satisfy the producers very well. Several lots thereof have even been sold at 11 to 12 cents Dutch per half kilo, or $4\frac{1}{2}$ to 5 cents American per 1.1 pounds, without causing a loss. The tobacco culture is entirely free and does not receive any Government aid or encouragement.

VIRGINIA LEAF—HOME PRODUCT—IMPORTATIONS.

Virginia tobacco, on account of its strong flavor and substance, is more difficult to replace by other varieties. Still, on account of the high prices prevailing during the last two years manufacturers are trying gradually to use a little less by mixing some of the darker heavy varieties of Java with the Virginia. As the demand in Holland runs chiefly on light cutting tobaccos, and the use of chewing tobacco is comparatively small, Virginia leaf has never been bought in any great quantities in Holland.

If the price of American tobacco were raised still higher, say 20 to 30 per cent, its importation and consumption would undoubtedly fall off to a still greater extent.

The cultivation of tobacco in the Netherlands is of very little importance. It embraced in 1906 359 hectares, equal to 887 acres, the average crop being 2,000 kilos per hectare, or 1,800 pounds per acre. The total crop may be estimated at about 1,700,000 pounds. This tobacco is of an inferior quality, but being a fine thin leaf part of it is used for cheap cigars, mostly as bunch, and part for cutting purposes, and as such competes little with American tobacco.

The market value averaged in former years 5 cents (American) per pound, the total crop thus representing about \$85,000 annually, but owing to the present condition of the market the price is to-day 7 cents per pound.

The Netherlands Government furnishes the following statistics of the importations of tobacco for consumption into the Netherlands during the past three years:

Origin.	1907.	1906.	1905.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
American	16,192,000	18,279,800	18,108,200
European.....	2,549,800	2,992,000	3,022,800
East Indian	21,621,600	15,932,400	12,603,800
From other countries	9,510,600	8,936,400	8,252,200
Cigars and cigarettes.....	313,355	248,600	224,594
Total	50,187,355	46,389,200	42,211,594

The import duty on tobacco in the Netherlands is 28 cents per 220 pounds and on cigars and cigarettes \$16 per 220 pounds.

GENERAL REVIEW OF THE TRADE.

My report on commerce and industries in the Netherlands for 1907 includes the following review of the tobacco trade:

The Dutch tobacco market, principally at Amsterdam, is pushing its way ahead and gaining in importance every year; the colonial tobacco is evidently the most energetic factor in this respect, and it is confidently expected that it will be able to maintain itself in future years. The consumption is steadily growing; the United States, for instance, reports an increase in consumption during the past year of 315,000,000 cigars, 256,000,000 small cigars, 1,374,000,000 cigarettes, 14,000,000 pounds of smoking and chewing tobacco, and 700,000 pounds of snuff; while the consumption of Great Britain, as in the past three years, again increased over 5,000,000 pounds.

On account of their increasing consumption the United States have every year less of their own tobacco to spare for export, and hence European countries are looking for a substitute for the same, which they are evidently finding in the Java tobacco; and thus can be explained that a crop of 516,000 packages could find ready purchasers at figures considerably higher than were obtained in former years when the Java crop amounted to less than half of the present one.

JAVA AND SUMATRA SALES PRICES.

The total sales and average prices at which the Java crop was sold during the past year may be specified as follows:

Variety.	Packages.	Price per half kilo.	Variety.	Packages.	Price per half kilo.
Besoeki leaf.....	45,676	\$0.228	Rembang krossok	83,722	\$0.049
Besoeki krossok.....	109,621	.117	Kedoe krossok.....	21,608	.069
Soerak. and Djokak. leaf ..	82,507	.208	Banjoemas leaf.....	1,148	.188
Pasoeroean (Loemadj.) leaf	33,993	.147	Banjoemas krossok.....	6,981	.092
Pasoeroean krossok.....	42,287	.082	Semarang leaf.....	581	.101
Kediri leaf.....	9,482	.099	Semarang krossok.....	3,709	.07
Kediri krossok.....	79,135	.058	Preanger leaf.....	42	.128
Pasoeroean (Malang) leaf.	2,135	.109	Preanger krossok.....	652	.065
Pasoeroean krossok.....	42,657	.064	Total	515,986	.....

The average price was 11.8 cents per half kilo, thus footing up a total value of \$10,800,000, against \$9,000,000 for the previous year's crop.

The general outlook for Sumatra tobacco was favorable at the beginning of 1907, and the expectations were fully realized; notwith-

standing the crop was 246,830 packages, or 23,000 packages more than the preceding one, the average price was 2 cents per half kilo higher; the whole 1906 crop was sold in 1907 for \$24,400,000, against \$21,700,000 in 1906. The Sumatra receipts and sales at Amsterdam were as follows:

From—	Packages.	Price per half kilo.	From—	Packages.	Price per half kilo.
Deli.....	87,211	\$0.692	Bedagel.....	6,083	\$0.576
Langkat.....	66,904	.652	Padang.....	8,410	.644
Serdang.....	38,244	.538	Batoe Bahra.....	7,006	.474
Asahan.....	10,198	.612			

The receipts and sales at Rotterdam were 18,801 packages, at \$0.732 per kilo, from Deli, and 1,324 packages, at \$0.49, from Padang.

The 1907 crop, which will be marketed in the current year, is estimated at 260,000 packages, of which the later sorts especially are said to be of good quality.

The importation and consumption of Maryland, Kentucky, and Virginia tobacco fell off considerably, owing to the high prices ruling in the United States, caused by the two successive small crops of Maryland, while it must also be recorded that bad packing caused many difficulties and much disappointment to purchasers.

FRANCE.

IMPORTATION, MANUFACTURE, AND SALE OF TOBACCO A MONOPOLY.

Consul-General Frank H. Mason, of Paris, furnishes the following report covering the production, import, manufacture, export, and sale of tobacco in France:

The importation, manufacture, and sale of tobacco in France is a strictly maintained Government monopoly, from which the State derived in 1906—an average year—a revenue amounting to 482,283,178 francs (\$93,080,653). Tobacco leaves and stems are imported free of duty by the Government, but their importation by private firms or individuals is prohibited.

The importation of manufactured tobacco in any form—cigars, cigarettes, smoking tobacco, etc.—is limited to 10 kilos (22 pounds) per annum, which may be imported by a person for his own use, under special permission to be obtained from the minister of finance. When imported for personal use cigars and cigarettes are subject to a duty of 50 francs per kilo (\$9.65 per 2.2 pounds); snuff, chewing and smoking tobacco, 15 francs per kilo (\$2.90 per 2.2 pounds), with the exception of Turkish tobacco, which pays a duty of 25 francs per kilo (\$4.82 per 2.2 pounds). The quantity imported under these conditions by individuals is inconsiderable, and the great bulk of the importation, as well as the entire manufacture and sale of tobacco in France, is handled by the “régie,” or Government bureau maintained for that purpose.

ANNUAL IMPORTS.

The imports of tobacco and tobacco manufactures into France in 1906 were as follows:

Leaf tobacco and stems, 68,712,817 pounds, valued at \$6,382,383, of which 34,167,102 pounds were imported from the United States; the other principal countries from which imports were received

being as follows, in pounds: Algeria, 7,978,456; Germany, 7,428,032; Austria-Hungary, 4,334,759; Russia, 3,280,341; Turkey, 2,550,922; Holland, 2,275,484; Dominican Republic, 1,963,775; Philippines, 1,381,719; Belgium, 762,245; Haiti, 576,111; Argentina, 530,343.

Cigars, 1,241,935 pounds, valued at \$1,134,911, of which 22,900 pounds were imported from the United States and 123,430 pounds from the Philippines. The principal sources from which cigars were imported were Switzerland (454,311 pounds), Cuba, Holland, etc.

Cigarettes, 635,065 pounds, valued at \$683,600, imported from Algeria (427,966 pounds), Turkey, Egypt, etc.

Snuff, plug, and other manufactures, 2,098,294 pounds, valued at \$788,889, imported chiefly from Algeria, Holland, Belgium, and Germany.

Tobacco juice, 101,178 pounds (value not given); imported from Switzerland.

Total imports 72,789,289 pounds, valued at \$8,989,783.

EXTENT OF EXPORTS.

The exports of tobacco and manufactures from France in 1906 were as follows:

Leaf tobacco and stems, 13,812,642 pounds, valued at \$1,337,191, exported chiefly to Germany, Algeria, Portugal, United Kingdom, Switzerland, British Colonies, Holland, Tunis, and Belgium.

Cigars, 680,704 pounds, valued at \$430,422, exported to Australasia, Algeria, United Kingdom, Indo-China, Egypt, Turkey, etc.

Cigarettes, 641,459 pounds, valued at \$752,425, exported to Indo-China, Belgium, Switzerland, United Kingdom, China, Guadeloupe, etc.

Snuff, plug, and other manufactures, 3,759,895 pounds, valued at \$1,695,989, exported to free zones (1,073,191 pounds), Indo-China (880,862 pounds), Morocco, Germany, Algeria, St. Pierre, Madagascar, United Kingdom; sold to French marine 312,345 pounds, and to foreign vessels 83,311 pounds.

Tobacco juice, 166,861 pounds, valued at \$7,219, exported to Algeria, United Kingdom, Uruguay, etc.

Total exports, 19,061,553 pounds, valued at \$4,223,246.

HOME-GROWN FRENCH TOBACCO.

The cultivation of tobacco in France is carried on under very strict regulations and supervision by the Régie. Every citizen is allowed to grow in his garden, for decorative purposes, two tobacco plants. If he grows more than that he must declare his intention, obtain a license, and register the number of plants that he wishes to cultivate. When grown, the only purchaser to whom he may sell his stock is the Government, which fixes the price to be paid.

The cultivation of tobacco in France is not increasing, but is rather on the decline. It is grown to some extent in nearly every department, but the bulk of the crop is produced in five departments, viz: Dordogne, 3,705 hectares (hectare=2.47 acres); Gironde, 1,627 hectares; Isère, 1,642 hectares; Lot, 1,958 hectares, and Lot-et-Garonne, 3,399 hectares. The crop of 1906, grown on 16,359 hectares, yielded 36,349,160 pounds, as compared with an average annual yield of 49,855,740 pounds during the last ten years.

The Government gives to the growers of tobacco the same recognition and encouragement accorded to farmers who grow wheat, pota-

toes, and other products, but beyond purchasing the leaf, at its own price, it offers no bounty or other artificial stimulant to specially encourage the culture of tobacco in France. There is nothing in the record of recent years to indicate that the supply of home-grown French tobacco will, either in respect to quantity or quality, become more formidable than it has been hitherto as a competitor with the better grades of tobacco from the United States.

Raw tobacco is purchased in the United States for the *régie* by Government agents, who make frequent visits to the leading markets and who are usually in close touch with the French consulate for the city or district in which the transaction takes place.

RÉSUMÉ AND CONCLUSIONS.

An analysis of the statistics given in the foregoing tables shows the following facts:

First, that the importation of raw tobacco leaf and stems into France increased from 55,720,614 pounds in 1896 to 68,712,817 pounds in 1906.

Second, that the United States supplied in 1896 28,524,839 pounds, or 51.1 per cent of the whole, while in the year 1906 it supplied 34,167,102 pounds, or 56.2 per cent of the total quantity imported.

Third, that three countries which supplied part of the imports of 1896, viz: Italy, British India, and Brazil, fell wholly out of the competition in 1906, and their places were taken by three other countries, viz: Haiti, the Dominican Republic, and Argentina. This shows that the three last-named countries are endeavoring to gain a foothold for their leaf tobacco in the French market.

Fourth, it is also shown that the competition of native French tobacco is not increasing, the crop of 1906—the last year fully reported—being the smallest gathered in any season during the past ten years.

Thus far, therefore, it can not be said that the tobacco of any other country is being substituted to any serious extent in France for the American product, but this would naturally ensue if any important and permanent advance in the price of American tobacco should be made and maintained.

DECREASED IMPORTS OF AMERICAN PRODUCT.

PROBABLE RESULTS OF ANY MATERIAL INCREASE IN PRICE.

In reply to an inquiry from a Virginia correspondent as to the probable effect in France of an increase of 20 to 30 per cent in the price of American tobacco, Consul-General Robert P. Skinner, of Marseille, writes as follows:

The probable effect of such a material increase in the price of American tobacco, unless clearly justified by general crop conditions, would be to accentuate the present tendency in France to procure supplies in other countries. In five years the only substantial increase in importations of American tobacco occurred in 1905, and this increase just about measured the shortage in importations from Algeria. The disposition seems to be to decrease importations from the United States, while increasing them from other countries.

It must be remembered that American exporters are dealing with an absolute Government monopoly, and that if prices in the United

States should advance too rapidly the monopoly is free to buy in the cheapest available market, and may be expected to do so, to the extent that the substitute tobaccos do not interfere with the volume of consumption and consequent revenue which the Government expects to derive from this enterprise. This is equally true of other European governments which control the tobacco business. The French Government is further committed to the policy of developing its colonies in every possible manner, and, other things being equal, will give their tobaccos the preference.

It must not be supposed that advanced farming methods are not being employed in remote tobacco-growing countries. A gentleman very extensively interested in tobacco and sugar plantations in Java informs me that the application of modern methods enables that island from year to year to increase the average production per acre. This particular exploitation deals with an immense area of land, where the labor supply is entirely satisfactory, and where the very latest devices are used for the handling of the crops. Sugar cane is converted into refined sugar ready for the market, and leaf tobacco is handled with equal care. A high-salaried agricultural chemist is employed, and a profitable market is found for everything produced.

DENMARK.

REQUIREMENTS OF THE MARKET—IMPORTS AND EXPORTS.

Consul-General Frank R. Mowrer, writing from Copenhagen, says that in Denmark the tobacco business is carried on as any other retail business, in that practically all of the stock in the shops is imported and there is no internal revenue tax imposed or license required to sell tobacco. Mr. Mowrer continues:

There is no government aid or encouragement for the production of tobacco. Relatively very little tobacco is grown in Denmark, the amount reaching only about 100,000 pounds, none of which is of a superior quality and all of it used solely for "long smoking"—that is, in a pipe with a very long stem. None of the tobacco imported from the United States is used in this way, consequently no native tobacco is used as a substitute for American export types of tobacco. Virginia tobacco is used for short-pipe smoking and that from Kentucky, or "roll tobacco," for chewing.

The cigars manufactured in Denmark are made from Brazilian and Java tobaccos. No cigars are manufactured from American tobacco, because it is considered too strong. American cigarettes are imported, but no cigarettes are manufactured. In recent years most of the cheap cigarettes are imported from Russia, and the better cigarettes are Egyptian, made from Turkish tobacco, or a high grade of English cigarettes, in the manufacture of which some American tobacco is used. The consumption of cigarettes has, during the last ten years, increased from about ten millions to about one hundred millions annually.

FOREIGN TRADE—NEW TARIFF RATES.

The chief importation of tobacco is from Hamburg, Bremen, and Amsterdam, which are the principal distributing centers. It appears that the large dealers in these cities pay cash for American tobaccos and sell to Danish dealers on credit. Denmark's foreign trade in

tobacco is shown by the following statistics, which show that Germany furnishes the largest share of the imports, while Sweden is the best customer for Danish tobacco. The imports from the United States are given, though those from Holland are much larger, the latter averaging nearly 2,500,000 pounds of leaf during the past three years. Russia now also supplies considerable tobacco to Denmark, the total in leaf increasing from 50,294 pounds in 1904 and 18,630 pounds in 1905, to 478,557 pounds in 1906. The statistics follow:

Article.	Imports.						Exports.	
	From Germany.		From United States.		Total, all countries.		To Sweden.	To all countries.
	1905.	1906.	1905.	1906.	1905.	1906.	1906.	1906.
	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>
Leaf	7,638,406	8,010,810	347,553	604,029	10,662,266	11,889,307	834,044	1,173,877
Cigars.....	127,332	139,845	.....	4	364,497	404,617	35,542	65,086
Smoking tobacco and cigarettes..	163,839	89,904	139,816	92,404	739,557	781,095	41,968	126,314
Chewing.....	858	996	177	193	3,362	2,904	4,750	263,939
Snuff.....	29	2,097	.....	.....	61,960	67,178	11,466	69,896
Total.....	7,930,459	8,243,151	487,546	696,630	11,881,642	13,145,101	927,760	1,699,112

The customs duties on tobaccos have been increased and went into effect on May 7, as follows:

Description.	Former duty (per half kilo. ^a).	Present duty (per half kilo. ^a).
Leaf tobacco.....	\$0.0402	\$0.0857
Cigars.....	.2251	.2943
Cigarettes.....	.05628	b .0657

^a Kilo=2.2 pounds.

^b Plus 30 per cent ad valorem.

UNITED KINGDOM.

EFFORTS TO GROW TOBACCO IN IRELAND CONTINUED.

With reference to the production of tobacco in the United Kingdom, Consul-General Robert J. Wynne, of London, says that, with the exception of Ireland, no tobacco is grown or produced in that country. He transmits a copy of the Irish tobacco act of 1907, which repealed the law prohibiting the growing of tobacco in Ireland. and writes:

In the general report of the department of agriculture for Ireland, issued 1907, it is stated that the experiments in the growing and curing of the tobacco crop were continued in 1906. These experiments were conducted under the special sanction of the board of inland revenue, with the object of determining the commercial possibilities of tobacco cultivation in Ireland. In order to facilitate the experiments, which involved a somewhat large expenditure, a rebate of one-third the duty levied on tobacco was allowed to the growers. The experiment at Tagoat, County Wexford, was worked on cooperative lines, eleven farmers cropping about one acre each, the tobacco being cured in one barn.

Curing barns were provided by the department at three centers, viz: Navan, Tullamore, and Tagoat. Experiments were continued at these centers, the area under crop being about 44 acres. In addition to these centers sanction was also granted in five cases where the growers undertook to provide at their own expense suitable accommodation for the curing of the leaf. Thirty-three acres were cropped by these growers.

REBATE PERIOD EXTENDED—TOTAL IMPORTS.

The season on the whole was reported to be favorable to the growth of tobacco, and the crop was successfully harvested at all the centers. The cured leaf will not, however, be marketed for sometime, so that the financial results can not be stated. In order to allow experiments to be carried to a conclusion, the chancellor of the exchequer consented to extend to ten years the period of five years originally granted, during which the rebate of duty will be allowed on tobacco grown for experimental purposes.

With regard to the imports of tobacco of various kinds into the United Kingdom from the United States and from other countries, the following statistics for 1907 are available:

Description.	United States.	Other countries.
Unmanufactured:	<i>Pounds.</i>	<i>Pounds.</i>
Stemmed	46,851,255	2,067,681
Unstemmed	39,567,929	10,556,765
Manufactured cigars	940,775	587,527
Cavandish and negrohead	1,118,302	185,568
Cigarettes	15,947	829,487

It is seen that, with the exception of cigarettes, the vast majority of tobacco imported into England is received from the United States. The preponderance of cigarettes received from countries other than the United States is due to imports of Turkish, Russian, and Egyptian blends, the trade in this article from the United States having fallen off owing to the failure a few years ago of an American attempt to control this market.

NORWAY.

THE REASON WHY MORE AMERICAN LEAF IS NOT SOLD.

One of the largest importers in Norway of American leaf tobacco has brought to the notice of Consul Felix S. S. Johnson, of Bergen, reasons why Norwegian tobacco manufacturers prefer to purchase their tobacco from Germany rather than from the United States, concerning which the consul writes:

The importer said that during the past few years the American leaf tobacco was dried by means of steam instead of being hung up and allowed to be dried by air; that many cases had been packed while wet, causing fermentation, and shipped to Europe; the rejected cases were then shipped to other European ports to be sold for what price the goods would bring. Most of the Norwegian manufacturers purchased the American leaf tobacco through Bremen commission houses whose salesmen visit these parts once or twice a year; they

have with them samples and allow a credit of some months; if the goods arrive in a damaged condition, or not as ordered, they are refused and shipped back to Germany.

As large quantities of American tobacco are used in the Norwegian factories, it would be worth the while of American producers or exporters to make direct sales to the factories here instead of having it to go through the commission houses in a third country. The system of requiring cash payment before shipment is made should be changed, for if goods arrive in a damaged condition the importer has no other recourse but to accept them, very seldom receiving an allowance from the American exporters for his loss.

ITALY.

EXPERIMENTAL FARMS IN THE PROVINCE OF FERRARA CONTINUED.

The results of the experiments of tobacco cultivation in the province of Ferrara, northeastern Italy, in 1906 and 1907, by the Societa Agricola La Codigoro have been published, from which Consul D. R. Birch, of Genoa, has prepared the following summary:

An experimental field prepared in the commune of Codigoro in 1906 was limited to 12½ acres of ground, but the necessary dry house erected was suitable for a much greater cultivation. The total expenditures for the trial exceeded 100,000 lire (\$20,000). The first experiment in 1906 was considered of much advantage, therefore in 1907 the area of cultivation was increased to 42 acres, situated in several different localities, according to the exact provisions included in the concession given by the Government. The result of this second experiment, however, was not as good as that of the first year, but this partial failure is said to have been due to causes not connected with the question of the availability of the soil for tobacco cultivation.

It is announced that the project will not be abandoned, as faith in the possibilities of the soil of Italy is still strong enough to warrant further experiments. In fact, another company, known as Societa Grande Bonifica, has prepared about 300 acres of land for a much more extensive experiment in tobacco planting.

KOREA.

COMPETITION OF ORIENTAL AND OCCIDENTAL INTERESTS.

Consul-General Thomas Sammons, writing from Seoul, says that of the foreign tobacco consumed in Korea the United States is credited with furnishing the largest per cent. His details of the trade follow:

Korean customs returns show that tobacco importations, mostly cigarettes, into Korea amounted to \$583,393 in 1905, \$550,880 in 1906, and \$545,274 in 1907.

It is estimated that Korea, with a population of 20,000,000, consumes 840,000,000 cigarettes annually, about 40,000,000 being contributed monthly by Japan, as shown by the estimates furnished by experts. The balance are composed largely of Virginia leaf tobacco and are manufactured mostly at Shanghai and also in the United States and England. The bulk of these cigarettes retail at the rate

of 10 for 1 gold cent for the cheapest varieties. This would place the lump retail valuation of Korea's annual "paper-tobacco" smoking at \$840,000. Korean pipe smokers are apparently in the majority, however, and are far more numerous in public than those who use tobacco wrapped in paper.

NATIVE HABITS—JAPANESE RESIDENTS AND ACTIVITY.

It may be said that old Korea smokes a long-stemmed native pipe having a metal bowl somewhat larger than a woman's thimble. Formerly the stems of these pipes were so long in fact that a servant was required at the far end to apply the match. New Korea prefers a cigarette. While it is not possible to estimate the value of the native tobacco consumption in Korea, it is known to be large. In 1907 Korea exported a small quantity of tobacco valued at \$2,290, an increase over 1906 of \$1,921 and over 1905 of \$2,137.

With the foregoing facts and figures in mind, estimating the Japanese population of Korea during 1907 as upward of 100,000, knowing that the local tobacco monopoly is actively pushing its tobacco trade in Korea and assuming equal commercial opportunity, the following may serve as a valuable index to those who seriously desire to participate in the trade of the Orient:

DIVISION OF TRADE.

American-British tobacco enterprise already has over 40 per cent of the total cigarette business of Korea. It also has over 50 per cent of the entire Manchurian import trade and controls the great bulk of all the business of the Orient in this particular line outside of Japan.

What business success this occidental company has met with in the Orient is largely due to its energetic business methods and its system of carrying stocks in the field of its commercial operations. The company has in the oriental field a staff of active, up-to-date American and British commercial salesmen, many of whom speak the native language and under whom many native salesmen are employed. In introducing goods the prevailing conditions are studied and suitable advertising matter, 15 by 30 inch posters or dodgers, are utilized or sample packets of cigarettes are given away. Where retailers are not anxious or willing to push sales, hawkers are employed to drum up trade. A printing plant is maintained, in which modern American color presses are used to prepare suitable advertising matter with the text in native characters, pictures being designed to suit local conditions.

Another feature of the company's methods is to impress upon the consumer through its advertising department the exact size, shape, and color designs of its packages. The wording of its advertising matter follows oriental and not occidental tastes and ideas in attracting and pleasing the consumer. The demands of the trade are studied intelligently and supplied as actual conditions require and not as the seller may think the buyer would or might prefer.

EASY PURCHASING FACILITIES.

Back of these essential details, and of greater practical importance to the successful marketing of goods, is the simple system of carrying stocks in warehouses where the dealer can obtain what he desires without delay, with no letter writing and, to him, annoying

preparation of drafts and remittances. All the dealer has to do in Korea or China is to go to a bank or other authorized agent, pay the fixed price for one or more cases containing 15,000 cigarettes, and receive a warehouse order for the goods. This order is honored at the warehouse and may be used as a check on the bank or agent, the latter remitting direct to headquarters.

CLASSES OF CIGARETTES USED.

Forty-five per cent of the Korean cigarette trade is in the paper mouthpiece, or Russian style, of which it is estimated that the Japanese tobacco monopoly has thus far supplied 90 per cent. Much hand labor is necessary in the production of these cigarettes, and should the occidental tobacco rival produce by mechanical devices cigarettes with a mouthpiece attachment, their already large per cent of the trade would be materially increased. A careful study has been made of this feature of the Korean trade, with the result that this invasion of Korea with cigarettes made by machinery, with Russian or mouthpiece attachment, is promised for the immediate future.

This, coupled with the fact that the Korean field is now being more thoroughly exploited than has heretofore been the case, presumably will give the American-British competitors more than 50 per cent of the tobacco trade of Korea.

Of the remaining 55 per cent of sales in Korea, Japan now probably furnishes 15 per cent of the double-end or ordinary cheap and popular brands, while the remaining 40 per cent of this variety is almost wholly supplied by the American managers of the American-British tobacco interests.

The mouthpiece cigarette is largely used by Japanese, but it is not believed their attachment to Japanese-made cigarettes will prove unalterable, regardless of price or quality. Their patronage, however, is desirable from the standpoint of the cigarette manufacturer, because they consume enormous quantities of cigarettes. The young Korean gentleman is also a liberal patron of cigarette manufacturers. He frequently prefers Egyptian cigarettes costing half a gold cent each, or imitations of Egyptian cigarettes as sold by certain dealers and retailers. An effort is being made through French agents to market Turkish and Egyptian brands of cigarettes in Korea, and considerable success is being met with.

TRADE-MARKS—JAPANESE STATISTICS.

Where fraud has crept in for the purpose of reaping through imitation the legitimate revenues accruing from established trade-marks and special designs the necessary steps have been promptly taken to put an end to such procedure. Where the remedy is not to be had through recognized international channels, a class of goods has been introduced that is calculated to bring favorable returns if not interfered with by any restraints. Less energetic methods than those employed in pushing American tobacco to the front in the Orient would result, no doubt, in failure.

The estimates referred to are based on the Japanese tobacco monopoly exports of cigarettes, having been approximately 1,750,000,000 in 1905, 1,054,000,000 in 1906, and 1,271,000,000 in 1907, of which there was shipped to Korea 559,112,000, 463,317,000, and 462,903,000, respectively.

SUGAR.

CROPS AND BY-PRODUCTS.

EGYPT.

GROWTH OF THE INDUSTRY—PRESENT FINANCIAL CONDITION.

Upon request of American interests, Consul-General Lewis M. Iddings, of Cairo, has prepared the following review of the sugar industry of Egypt:

The imports of sugar into Egypt in 1906 and 1907 were as follows, by country, weight, and value:

Country.	1906.		1907.	
	Tons.	Value.	Tons.	Value.
England	19	\$1,518	10	\$824
Germany	11,560	620,605	241	14,512
Austria	12,800	736,999	15,580	971,283
Belgium	3,226	175,509	80	5,496
China-Java	6,311	400,278	3,042	146,016
France	102	6,505	10	694
Holland	87	2,296	.....	.....
Russia .....	.4	20	4,535	250,459
Turkey	1	82	2	250
Total	34,056.4	1,943,812	23,500	1,389,534

The decrease in 1907 was 10,556 tons, valued at \$554,278, due to the financial distress which prevailed in Egypt in that year. A small stock probably remained over from 1906, but in 1907 no traders bought beyond their actual wants. The statistics cover refined sugar, except that from Austria, which was beet sugar, and from China-Java, which was raw cane sugar, all for the Sucreries Company. The following tabulation shows the imports of refined and raw sugar for two years:

Description.	1906.		1907.	
	Tons.	Value.	Tons.	Value.
Refined sugar	14,945.4	\$806,534	4,878	\$272,234
Raw sugar	19,111	1,137,277	18,622	1,117,299

The refined sugar was for consumption and the raw sugar to be refined. It will be noted that the quantity of raw sugar imported in each year was about the same. The exports of sugar, all refined, in 1906-7, were as follows:

Destination.	1906.	1907.	Destination.	1906.	1907.
England	\$46,165	\$52,525	Turkey	\$106,160	\$73,205
Germany	1,350	2,255	Other countries	15,345	10,265
Belgium	1,735	2,385			
France and Algeria	42,825	41,440	Total	215,995	185,356
Italy	2,415	3,280			

Practically all this sugar was manufactured by the Sucreries Company. The shipments to France were candied sugar (rock candy)

to sweeten champagne, for which purpose it is especially esteemed. The decrease in exports indicates an increased domestic consumption. All the sugar exported was of domestic origin. The Sucreries Company sent 4,370 tons of refined sugar to the Sudan in 1906, and 5,993 tons in 1907.

CONDITIONS OF MANUFACTURE.

The sugar trade in Egypt is principally in the hands of a French company known as the Société Générale des Sucreries et de la Raffinerie d'Égypte, commonly called the Sucreries Company. This concern and two or three small private refineries take all the raw cane sugar raised in Egypt and refine it. As at present organized the Sucreries Company has only been working since 1905, and is not making much money. The sugar industry previous to 1905 was in the hands of a Government commission called the Daira Sanieh, which sold to the Sucreries Company its factories, but not its lands. The Daira Sanieh manufactured only raw sugar from the cane on their own lands, and this they sent to the United States. The Sucreries Company refines all the Egyptian raw sugar it can get. In 1905-6 (the fiscal year ends October 31) the company worked up 684,608 tons of cane and turned out 63,634 tons of raw and 46,619 tons of refined sugar; in 1906-7 the output from 414,877 tons of cane was 41,509 tons of raw and 31,144 tons of refined sugar. The richness of the cane in 1905-6 was 12.34 per cent, and in 1906-7 12.70 per cent. The company sold as follows:

Kind.	1905-6.		1906-7.	
	Tons.	Value.	Tons.	Value.
Refined sugar.....	30,456	\$2,244,597	34,130	\$2,591,966
Granulated sugar.....	6,208	392,411	11,657	739,739
Candied sugar.....	7,247	429,936	10,022	602,259
Total.....	43,911	3,066,944	55,809	3,933,964

LOCAL CONSUMPTION AND THE COMPANY'S OWN EXPORTS.

The local consumption in 1905-6 was 75,000 tons of refined sugar, and in 1906-7, 82,378 tons, two-thirds being furnished by the Sucreries. The company itself exported as follows:

To—	1905-6.			1906-7.		
	Sacks, 220 pounds each.	Tons.	Value.	Sacks, 220 pounds each.	Tons.	Value.
Red Sea.....	9,721	966	\$78,973	11,119	1,094	\$88,099
Persian Gulf.....	7,718	759	62,500	.....	.....	.....
Turkey.....	212	21	1,303	140	14	1,053
France (candied sugar).....	2,405	237	22,464	5,033	495	45,817
Total.....	20,056	1,973	165,240	16,292	1,603	134,969

The cost of manufacture in 1906-7 was \$5.046 for every sack of 220 pounds (2½ cents per pound), against \$5.002 for every 220 pounds (2½ cents per pound) in 1905-6, the rise being due to the increased price of labor and raw sugar. This cost does not include the expenses of packing, etc., which are equal to 67 centimes (12½ cents) per sack of 220 pounds. The retail price of sugar in Cairo and Alexandria, in the shops, is: Brown sugar, 3½ cents per pound; white

cane sugar, granulated, 3½ cents; refined sugar in loaves, 3½ cents; refined sugar in squares, 4.992 cents per pound; pulverized sugar, 4.599 per pound. The average sale price of the company was 38.74 francs (\$7.48) in 1907, against 37.82 francs (\$7.30) in 1906, per sack of 220 pounds.

DEVELOPMENT OF THE INDUSTRY.

To understand the conditions of the sugar trade in Egypt, it must be remembered that the cultivation of sugar cane was begun there in the reign of Ismail Pasha. He brought the cane from Jamaica in 1850, and the manufacture of sugar was begun in 1855. The Khedive's property later passed into the hands of a Government commission called the Daira Sanieh, which increased the number of factories. At that time the low price of cotton gave a great impetus to the cultivation of sugar cane. Only raw sugar was manufactured by the Daira, the greater part of which was sent to the United States to be refined; so that for its supply of white refined sugar Egypt depended upon France and Austria. In 1903, it had nine factories in Egypt—six in upper Egypt and three in lower Egypt. Land in upper Egypt was not then supposed to be fit for the cultivation of cotton.

Later the whole sugar industry of the country passed from the Daira to an English syndicate, and then to the French company. This company did not flourish—partly due to the fact that the high price of cotton influenced proprietors of land to stop raising sugar cane and to grow cotton, even in upper Egypt. The area devoted to sugar cane was reduced in 1906 by one-half. In 1906 a reorganization of the company was brought about, and the company is now doing as well as could be expected. It is hoped that in time its undertakings will be profitable. It practically has the sugar industry of Egypt in its hands. Only four of its factories are now working.

NATAL.

PRESENT DEVELOPMENT AND IMPORTANCE OF THE INDUSTRY.

Consul Edwin S. Cunningham, writing from Durban on the Natal sugar industry, states that it is one of the most important in that South African colony, and that more money is invested in it than in any other branch of trade, excepting only coal mining, which possibly exceeds it by half a million dollars. The consul's details follow:

Sugar cane has been grown in the coast districts for a quarter of a century, but until the last ten or fifteen years the most primitive methods were used. About fifteen years ago Yuba cane was introduced into Natal, and during the past eleven years its culture has been carried on in a practical manner, to the exclusion of all other varieties. The industry has now grown to one of considerable importance.

The capital invested in the industry amounts to over \$7,300,000, of which the amount in lands is \$3,950,000; buildings and improvements, \$925,000, and in machinery and plant, over \$2,750,000. During the last eighteen months at least \$975,000 has been invested in

machinery alone. Great interest has been shown in the industry during the most recent years, and local financiers have shown their faith in its future by investing their own money, as hardly \$1,000,000 of the capital invested is foreign. Advanced methods of cultivating the cane are rapidly being introduced, and modern mills and a completely equipped refinery are taking the place of the out-of-date plants in several plantations, while all the old plantations are being improved and new machinery is being substituted for that formerly used.

NEW COOPERATIVE REFINERY.

Until recently it was the custom of the 34 mills to make and refine sufficiently for local consumption their own output. This is still the practice of many, but five of the largest have jointly subscribed to the stock of the South African Sugar Refineries (Limited), which has been put into operation at South Coast Junction, where the unrefined sugar from the mills of subscribers and others will be forwarded to be converted into as fine sugar as can be produced anywhere. The company has established an up-to-date refinery, equipped with the most modern sugar-making machinery, with a capacity of refining 100 tons daily. Standard qualities of sugar will be turned out, including cubes, crystal, granulated, etc., in addition to which golden sirup will be manufactured.

There were in 1906 40,022 acres in cultivation under European management, neither native nor Indian plantings being of any consequence. Practically the entire coast district of Natal is suited to cane culture, as the soil is very fertile and the rainfall generally is ample, being from 30 to 60 inches, for the deep-rooting Yuba cane. Replanting takes place every three or four years. The cane grows to a medium size, and the yield of sugar per acre in 1906 from all the lands harvested was 1.7 tons of sugar, though the yield on the best-conducted plantations is much greater.

In 1906 23,497 short tons of sugar, valued at \$2,123,000, and 2,701,242 pounds of molasses were produced. The official statistics for 1907 are not yet available, but it has been estimated to have been 40,000 tons, or about 10 per cent of the Louisiana output, valued at \$63 per ton. From the increased plantings it is safe to say that, under existing conditions, the annual yield is not likely to fall under this amount.

All the alcohol manufactured here and the methylated spirits, which are manufactured on a large scale, are by-products of sugar.

INDUSTRIAL PROTECTION.

For the purpose of protecting and advancing this important industry a substantial duty has been imposed. Prior to July, 1906, the duty on unrefined golden sirup, molasses, saccharine, and treacle was \$17.03 per ton; when refined, \$24.33 per ton. This was altered in 1906, when there was imposed the present duty of \$24.33 per ton on candy, loaf, castor, icing, and cube; \$17.03 on other kinds, including golden and maple sirup, molasses, saccharine, and treacle, excepting concentrated forms of saccharine and other sweetened substances, on which there is a duty of \$4.87 per pound.

The duty prescribed by the Customs Union tariff does not fully show the protection afforded the industry, as it is further protected

by a preferential freight rate on government railroads of Natal and South Africa, as a South African product. As an illustration Natal sugar enjoys a preference in freight between this port and Johannesburg of \$12.97 over the imported sugar, which resulted in 1907 in 26,226 tons, valued at \$1,995,590 of the Natal product being shipped to the inland colonies for consumption, while in Natal the principal consumption is of the imported sugars.

It will be apparent that, although the sugar industry is one of great importance to the colony, it has been fostered by the levying of a duty on the imported article and extending to the domestic product such a substantial preference in freight that the withdrawal of either, without a corresponding benefit from the other, would be fatal to it.

THE LABOR QUESTION.

As a laborer on the plantations the native has until now been unsatisfactory. White labor, except for the more responsible posts, is unobtainable, besides being too expensive; and to meet these conditions Indians have been indentured for a term of five years, and it is quite probable that without this cheap labor the industry could not survive. In 1906, 7,565 persons of all races were employed in the cane mills and plantations. Of this number 203 were white, the remainder being chiefly indentured Indians. Of the 24,761 indentured Indians in Natal in 1907, 7,131 were employed on sugar estates.

The difference in wages paid to the Indian and white is not so great as one would suppose, as it has been reliably estimated that three-sevenths of the wages were paid to white and four-sevenths to colored. The whites are highly paid, which makes the term "cheap labor," as applied to the Indian, only relatively appropriate.

EXPORTS AND IMPORTS—AMERICAN MACHINERY OPENING.

Natal sugar and sugar products were exported to other colonies in South Africa in 1907 to the value of \$2,031,223, and over sea to the value of \$2,136. During 1906 (1907 returns not yet available) the United States exported to Natal sugar, \$5,565; glucose and sirup, \$5,550, and confectionery, \$905.

During 1906 (1907 returns not yet available) the imports from the United States into the whole of British South Africa of sugar amounted to \$63,947; glucose, \$54,277; golden sirup, \$258, and fancy confectionery, \$1,888.

Although there is over \$2,750,000 invested in sugar machinery and plant, very little of it is of American manufacture. Some have made diligent inquiry, with the intention of buying the most suitable plant wherever it could be bought at the least cost, with the result that they found American mills, etc., were more expensive than those made in the United Kingdom.

As improvements in equipment will continue as the industry increases in importance, I would urge American manufacturers of sugar machinery to put themselves in a position successfully to compete with the prices and equipments offered by manufacturers in other countries. In this line I am of the opinion that catalogues and other literature would be read with interest by prospective buyers. [A list of the most prominent sugar mills and estates in Natal may be secured from the Bureau of Manufactures.]

ITALY.

VALUE OF THE BEET-SUGAR INDUSTRY TO THE KINGDOM.

The following information concerning the beet-sugar industry of Italy is furnished by Consul James E. Dunning, of Milan:

All the sugar produced in Italy is refined from the sugar beet. No cane sugar is produced, and therefore a small quantity is imported to meet a special demand, the imports in 1906 amounting to only 12,412 tons, the largest import since 1902, when it amounted to 20,011 tons. Austria supplied more than one-half the total imports in 1906, France, Belgium, and the United Kingdom following in their respective order.

The 100,000 acres under sugar cultivation in Italy were formerly almost waste ground, with the exception of a small amount of fruit grown thereon. To-day this ground yields from \$40 to \$60 worth of beets per acre. Formerly the fruit grown on the ground brought from \$25 to \$40 per acre. This increase means a great deal to Italian agriculture in general. It raised the wages paid for farm labor about 2½ cents per acre and gives employment to large numbers of factory hands, at from 60 cents to \$1.10 per day. There are at present about 26,000 persons employed in the sugar industry in Italy.

BY-PRODUCTS—COST OF GROWING.

The by-products are also used to good advantage, mostly for feeding animals. The price of these by-products is about 45 cents per ton. To produce the Italian sugar output it is necessary to use 1,100,000 tons of beets, and these yield enough of by-products to feed 30,000 cattle. Formerly the by-products from the previous cultivations on the ground where the beet is now grown fed only 5,000 cattle. It is also stated that the waste of the refinery process is commencing to be used as a fertilizer. In many other ways the industry has been useful.

The molasses waste of the beet in Italy is not manufactured, on account of the high cost of that process, but is sold in the open market for the distillation of alcohol.

It takes 9.54 tons of sugar beets to produce 1 ton of sugar 100 per cent pure. The Italian refinery must pay the cultivator an average price of \$4.55 per ton of beets, including transport expenses from the field to the refinery. Therefore \$43.54 must be spent for beets to make 1 ton of sugar 100 per cent pure. The cost of manufacture, excluding interest on capital, amounts to about \$19.21 per ton of sugar. After refining expenses are paid, excluding interest on capital, a ton of sugar 100 per cent pure costs in Italy about \$62.62, or nearly 3 cents a pound, not including the Government tax on production, which is 6 cents per pound.

LACK OF SUITABLE SEED—SUGAR PRICE REGULATION.

The various sugar beets cultivated at present in Italy are grown from selected imported seeds, although results obtained are not entirely satisfactory. Italy stands in great need of native seed. The damage resulting from the importation of seed amounts to from 3 to 4 grades less in richness of sugar. Italy imports annually about \$3,647,700 worth of seed of all kinds. It often happens that the imported seed is of inferior quality. The Italian demand for seed

can not at all times be supplied by foreign seed exporters, and in such cases the seed is collected immature and sent in that condition to Italy.

The "Unione Zuccheri," with main offices in Milan, is an organization of Italian refineries to control production. The union establishes the quantity of sugar that each refinery may produce in any given year. Every Italian refinery, except one, is a member of the union. There are 34 refineries in Italy to-day, and the construction of the thirty-fifth was started about six months ago. The union determines the selling price of sugar in Italy, which has always to be lower than that for which imported sugar could be sold. The union forms what is believed in Italy to be the best way to carry on the industry with success. It does not speculate nor can it create special and abnormal prices on the Italian market. By its aid it is next to impossible to turn out an overproduction, such as, happening often, would mean the downfall of the industry. There is about \$24,000,000 invested in this Italian industry at present.

RUSSIA.

CROP YIELD FOR THE PRESENT SEASON AND MANUFACTURING RESULTS.

Consul John H. Grout makes the following report, from Odessa, on the current Russian sugar crop, with comparisons of previous yields:

Owing to the fact that such a very large percentage of the total sugar industry of Russia is confined within the Odessa consular district it is hardly practicable or satisfactory for me to report upon this subject unless I embrace the statistics for the whole country. Accordingly, the following deals with the final results obtained for the sugar boiling period 1907-8 for all of Russia:

From the compilations prepared by the departments of indirect taxation and of the liquor monopoly it appears that the number of factories in operation in the Empire during the last season was 278, as against 279 for the preceding period. Beet root to the extent of 534,550,460 poods, or 9,621,908 short tons, was delivered to the boiling factories, as against 630,562,520 poods, or 11,350,125 short tons, for the previous season. The quality of this beet root proved to be far superior to that of the preceding period, the roots containing the following percentages of sugar: In October, 19.53; in November, 18.48; in December, 16.96, and in January, 1908, 12.45.

As a result of this favorable condition of the raw material the difference between the sugar realized this season, as compared with the last season's return, is not so very considerable, as was at first feared while the crop was still in the fields. The figures for this period, 1907-8, are as follows: Refined loaf sugar, fully white, 6,113,609 poods, or 110,045 short tons; white sugar in crystals, 69,912,891 poods, or 1,258,432 short tons; yellow sugar, 15,907 poods, or 287 short tons; refined treacle, 3,759 poods, or 68 short tons. The corresponding figures for the previous period, 1906-7, were: Refined sugar, loaf, 6,618,197 poods, or 119,127 short tons; white crystal sugar, 71,033,696 poods, or 1,278,606 short tons; refined treacle, 19,403 poods, or 350 short tons. No yellow sugar is mentioned for that period.

FORMOSA.**OPPORTUNITIES FOR BUILDERS AND MACHINE MANUFACTURERS.**

Consul Julean H. Arnold, of Tamsui, transmits an extended report on the sugar industry of Formosa, from which the following principal points are taken:

The primary object in the development of the industry is that Formosa may be able to supply the sugar consumption of Japan, to do which it must increase its production sevenfold its present output. With the efforts being put forth, together with the erection of modern sugar mills, which is being effected as speedily as possible, the island is on the way to accomplish this.

In 1900 the first modern crushing mill was erected by an American company, at the instance of the Formosan government, which proved so successful that it was then decided to encourage the manufacture of sugar in the island by modern machinery on a large scale, and although there are still 500 of the small native stone mills in operation, they are being absorbed by the large companies.

An American company recently completed the erection of a 500-ton mill and is now erecting a 1,000-ton mill at Ako and a 1,200-ton mill at Koshiken, the latter being the largest mill erected, thus far, in the island. Five Americans are employed in superintending these erections. Another mill has purchased 120 miles of American rails and a number of American locomotives for its cane trams. In connection with a large mill being erected by a German company, both American and German locomotives will be used on its trams. Still another mill, the machinery for which has been supplied by a Scotch company, has American building equipments and locomotives.

ADVICE TO AMERICAN EQUIPMENT MAKERS.

Probably the best advice which this office can give to American manufacturers of sugar machinery, equipments, car trams, and steam plows is that they send their representatives to the island to examine into conditions for themselves. In the event that any American manufacturers or dealers should contemplate sending representatives to Formosa, this consulate will be glad to instruct any such as to hotel accommodations, traveling facilities, and to assist in securing for them such interpreters as they may need, as well as furnish any other general information.

As the Formosan sugar mills are, for the most part, located in the country districts, it is necessary that mail matter intended for them be addressed in Japanese as well as in English, in order to insure its reaching its proper destination. [Consul Arnold has transmitted the addresses of the sugar mills on slips in both English and Japanese, which will be supplied to interested persons by the Bureau of Manufactures. A map of Formosa, showing the location of the sugar mills, is also on file in the Bureau of Manufactures.]

FOODSTUFFS.

MEAT PRODUCTS AND PRICES.

NEW ZEALAND.

NO DEMAND ABROAD FOR KOSHER MEAT—EXPORTS OF OTHER MEATS.

In reply to an American inquiry concerning the export trade in kosher meat Consular Agent Frank Graham sends the following information concerning his district of New Zealand:

Of the two companies in Canterbury which tin meats, one has never put in tins or exported kosher meat, and the other, after experimental shipments to London and South Africa a few years ago, abandoned both the exportation and the tinning of this meat. There are 37 meat-freezing works in New Zealand, but probably only one-half of them do any canning. The sale of tinned mutton and beef in New Zealand is small. The few Jewish people there are comparatively wealthy, and consequently there is no demand for kosher tinned meat.

Meat is chiefly exported from this country in a frozen state. The value of the exports of carcasses and joints of lamb, mutton, beef, and veal, in 1906, was £2,820,737 (\$13,727,116). The accompanying table shows the statistics for the years 1904, 1905, and 1906 of exports of potted and preserved meats from New Zealand:

Countries.	1904.	1905.	1906.
	<i>Hundredweight.</i>	<i>Hundredweight.</i>	<i>Hundredweight.</i>
United Kingdom.....	10,981	15,849	24,391
Other Australian States.....	2,596	3,037	3,339
South Sea Islands.....	5,697	6,766	7,955
Fiji.....	2,548	2,235	4,018
British South Africa.....	856	517	374
All other.....	110	135	116
Total	22,788	28,589	40,193

In 1904 14,737 pounds of meat extract were exported to the United Kingdom; in 1905, 28,120 pounds, and in 1906, 28,921 pounds.

AUSTRALIA.

TASMANIAN RABBIT INDUSTRY GROWS IN IMPORTANCE.

Consul Henry D. Baker writes from Hobart, under date of April 28, that during the last few years the rabbit industry in Tasmania has assumed considerable proportions. His particulars follow:

Rabbits for export are trapped only in the winter months, when their fur is at its best, and the industry affords remunerative wages for a number of men and boys at a time when agricultural operations are dull. The trappers disembowel the rabbits on the spot

and cart them to the nearest railway station for dispatch to the freezing works at Hobart or Launceston. The rabbits are graded as to size and packed in crates holding from 24 to 30 rabbits, according to size, which are then stored in a freezing chamber. Periodically a steamer calls and takes a consignment of frozen rabbits to England. The season is just now approaching, and appearances seem to point to a busy time for the trappers. [The total Australian exportation in 1906 of frozen rabbits and hares was valued at \$2,391,563, and of rabbit skins \$2,323,510.—B. of M.]

GERMANY.

PORK PRICES AGAIN ADVANCING—QUOTATIONS FROM VARIOUS CITIES.

Consul William Bardel, writing from Bamberg, says that the price of pork in Germany, which during the year 1907 had become somewhat lower than it was during the two preceding years, in which the highest price on record had to be paid, is again going up and bids fair soon to reach, if not exceed, the previous highest point. He adds:

As compared with the market price paid for pork in the year 1907, the figures prevailing in the markets of 17 large German cities at the present time (computed into American currency per hundredweight) show up as follows:

Cities.	1907.	1908.	Cities.	1907.	1908.
Berlin	\$9.07-\$10.58	\$9.93-\$11.44	Mannheim	\$11.22-\$11.66	\$11.09-\$12.52
Breslau	8.64- 10.80	9.93- 11.66	Stuttgart	11.22- 11.88	12.31- 12.96
Magdeburg	8.64- 11.03	9.71- 12.31	Munich	10.80- 12.31	10.80- 12.96
Dresden	9.91- 11.44	11.22- 12.74	Nuremberg	11.00- 11.88	12.74- 13.16
Leipzig	9.49- 11.44	10.46- 12.09	Cologne	10.37- 11.66	11.44- 12.31
Hanover	9.28- 11.44	10.46- 13.60	Elberfeld	9.07- 11.00	10.37- 12.52
Hamburg	8.64- 10.58	10.58- 11.66	Essen	9.49- 11.00	10.37- 12.52
Dortmund	10.37- 11.44	10.37- 12.31	Düsseldorf	9.49- 11.66	11.66- 13.60
Frankfort	9.49- 11.88	10.80- 12.74			

ANIMALS SLAUGHTERED FOR FOOD LAST YEAR.

Consul-General Richard Guenther, of Frankfort, furnishes the following information covering the number of animals slaughtered for food and officially inspected in Germany in 1907: Oxen, 575,671; bulls, 427,732; cows, 1,611,366; heifers, over 3 months, 938,936; calves, up to 3 months, 4,384,842; hogs, 16,382,983; sheep, 2,186,113; goats, 489,743; horses and other solipeds, 135,239; dogs, 6,472.

BELGIUM.

INCREASING CONSUMPTION OF HORSE MEAT—OTHER MEAT PRICES.

Consul-General Ethelbert Watts, in writing from Brussels that horse meat is very largely used in Belgium as human food, gives the following details:

Statistics show that the importation of horses for that purpose is increasing annually, the importations in 1904 having been 20,218 head; in 1905, 22,284 head; and in 1906, 26,294 head, the greater part of which was from England.

There are two recognized abattoirs for Brussels and suburbs, namely, the Anderlecht-Cureghem slaughterhouse (a private corporation) and the city of Brussels slaughterhouse (municipal). The

former butchers 2,798 to 2,950 and the latter about 1,200 to 1,500 horses annually. This large consumption of horse meat is due to the high charges for other meats in this city.

There are about 36 butchers' establishments in Brussels and suburbs retailing horse meat only. The retail price varies from 35 centimes (6.7 cents) to 80 centimes (15.4 cents) per $\frac{1}{2}$ kilo (1.1 pounds).

The following are the present retail prices of beef per $\frac{1}{2}$ kilo: Best tenderloin (filet pur), 3 francs (57.9 cents); other good beef for roasting, 1.45 to 1.6 francs (27.9 to 30.8 cents); soup and inferior beef, 60 to 90 centimes (11.5 to 17.4 cents); mutton, 80 centimes to 1.25 francs (15.4 to 24.1 cents); veal, 1.25 to 1.6 francs (24.1 to 30.9 cents); pork about same price as mutton.

FRUIT TRADE.

ITALY.

REDUCED AMERICAN PURCHASES—DECLINE IN PRICES.

In forwarding statistics of exportation of citrate of lime and concentrated lemon juice, boxes of lemons, and essence from Sicily, Vice-Consul Joseph H. Peirce, of Messina, writes:

There is a marked decrease in all the items due to the crisis of the importation markets. Shipments of essences would be much less this season if contracts had not been made when the crisis and the consequent depression in prices were not apprehended. Some of the buyers had already signed contracts for about 50 per cent more than the present actual market prices, to complete which will cause them to lose heavily.

The exportation of citrate of lime and concentrated lemon juice from Sicily during the four months December, 1907, to March, 1908, amounted to 5,341 pipes, against 7,907 pipes during the same period of the previous year. The shipments to the United States, the largest customer, dropped from 2,802 to 1,972 pipes and to France from 2,753 to 1,212 pipes, while Germany took 219 more, or 1,113 pipes.

The Sicilian exportation of essences, that of lemon constituting the larger part, for the five months during November, 1907, to March, 1908, dropped to 175,000 pounds (including coppers), having been 282,000 pounds the same period of the previous year. The exports of 251,000 pounds to other countries were the same as in the previous five months.

Exact and separate statistics of shipments of lemons in boxes to the United States can not be given, for the reason that some times, on account of better prices in the markets of the States, boxes of lemons which were intended for transshipment in the States for Canada are kept in New York or Boston and sold there. Vice versa, some intended for the American markets are reshipped to Canada. The exportation of lemons in boxes from Sicily to the United States and Canada for the six months October to March for the past four years has been as follows: 1904-5, 809,900; 1905-6, 692,600; 1906-7, 725,700; 1907-8, 571,300.

The majority of the Sicilian producers, manufacturers, and merchants of lemons and similar fruit and products of same have held several meetings with the object of establishing a society for the pro-

tection of these products. It is the opinion that they will succeed in their intention, in which case an increase in prices will certainly ensue for the coming season.

BRITISH SOUTH AFRICA.

INITIAL EXPERIMENTAL SHIPMENTS OF FRESH FRUITS TO EUROPE.

Consul Edwin S. Cunningham, of Durban, furnishes the following information relative to the first shipments of Natal fresh fruits to Europe:

During the year the Natal Government extended substantial aid to a well-organized effort to find a market in Europe for Natal citrus and other fruits. As the season closes the shipments can in no sense be termed a success, though it must be remembered that this was but the experimental and initial stage. No doubt the experience gained during this season will enable the growers to profit by any mistakes they may have fallen into, and succeeding years' shipments will be more satisfactory. The fruit of this colony is excellent, and when some obstacles are overcome, it seems probable that they may be found in European markets at a time when other fruits are out of season.

During June, July, August, and September, 1907, 295 tons of Natal fruit were received in London, from which consignments were offered in the principal markets in England and Scotland, as well as Antwerp, Amsterdam, and Hamburg on the Continent. Of these shipments 67 tons were shipped between deck at a 25 shilling (\$6.08) rate, the remainder in cool chamber at a 77 shilling (\$18.74) rate. As a result of this year's experience the Natal Orchard Association, under which the exportations have been made, announce that citrus fruit can be successfully carried to European markets and fair prices obtained for a good quality; that it must be shipped in cool chambers, but that 77 shillings is too high a rate to permit of shipments being made at a profit. The total oversea exports of Natal fresh fruits of all sorts during 1907 amounted to only \$14,720, and the exports to other colonies in South Africa to \$551,440.

AMERICAN FOODS IN AUSTRIA.

WHY SUCH PRODUCTS HAVE NOT A LARGER MARKET IN BOHEMIA.

In reply to many inquiries Consul Joseph I. Brittain, of Prague, supplies the following information concerning the obstacles in the way of a larger consumption of American foods in Bohemia:

Within the past few months many inquiries have been made at this consulate by American dealers who wish to extend their market for canned and evaporated fruits, canned salmon, and biscuits of various sorts, especially California fruits.

The impression that appears to prevail among many of the producers is that, perhaps, our fruits are not carefully packed for foreign markets, and consequently do not arrive at their destination in a satisfactory condition. While the proper preparation of fruits for the foreign market is something which should receive the careful attention of the exporter, the overshadowing reason why our fruits

do not find in Bohemia the market which they merit must be attributed to another cause, namely, the high Austrian tariff rates.

A considerable percentage of the merchandise exported from Prague to the United States—which amounted to \$3,214,850 in 1907—is on the free list. On the other hand, the following duties must be paid on some American food products entering Austria: Biscuits, \$20.30 per 220 pounds, and when they contain sugar, \$17.25. The duty on prunes, packed in boxes or sacks weighing over 66 pounds, is \$2.84 per 220 pounds; in smaller packages, \$5.08, or 2½ cents per pound. Ordinary California prunes sell for 20 cents per pound. Evaporated apricots, pears, peaches, apples, and cherries pay a duty of \$4.06 for 220 pounds. The duty on fruits sealed in tin or glass cans is \$17.25 for 220 pounds, or about 8½ cents a pound. Salmon in cans hermetically sealed pays a duty of \$17.25 per 220 pounds, or about 8½ cents per pound. The Austrian duty on grain is also high; wheat pays a duty of \$1.28 per 220 pounds.

Aside from the high duty, the Prague retailer takes a large percentage of profit, as compared with the American retailer, claiming that the expenses of the business demand the margin. Regardless of the high duties, the American exporter could increase his sales if he were to sell direct instead of through foreign houses, thus increasing commissions and freight.

COFFEE CONSUMPTION IN TURKEY.

GRADES PREFERRED—OPENING FOR AMERICAN GRINDING MILLS.

Consul Ernest L. Harris, of Smyrna, furnishes the following information concerning the consumption of coffee in Asia Minor and the relatively great demand for coffee mills:

Coffee is the national drink of Turkey. That used in the city of Smyrna comes principally from Brazil. The best quality of imported coffee is the Arabian, but it is so expensive that only the richer classes can afford to buy it. Brazilian coffee is the staple product in this part of the world, and reaches this port chiefly through commission houses in London, Hamburg, Trieste, and Marseille. Payments are cash against the delivery of the shipping documents. The annual imports amount to about 90,000,000 pounds. Brazilian coffee is sold by retailers at 15 to 20 cents per pound, while the Arabian product often costs more than double this sum.

It is natural, in a country where so much coffee is consumed, that coffee mills should be greatly in demand. England and Germany send out cheap coffee mills which sell at from \$1 to \$2.50 each, according to size and quality. Of late a sort of flat wooden mill has been introduced here which promises to have large sales owing to its cheapness. American coffee mills can easily be introduced in Smyrna if the prices are reasonable. If American manufacturers of such articles will send their catalogues to this consulate, in triplicate, I shall be glad to bring them to the attention of interested parties.

One thing which militates against the ready sale of coffee mills in the interior of Asia Minor is the old-fashioned custom of grinding coffee in a large stone or marble mortar by means of a heavy iron pestle. Sometimes even simpler methods are used, such as crushing coffee between two flattened stones.

JAPAN'S FLOUR TRADE.

EXTENSION OF THE INDUSTRY—COMPETITION FOR NEW MARKETS.

Consul Hunter Sharp, of Kobe, sends a Japanese newspaper article on the flour industry, which says, in part:

Among the various new undertakings started subsequent to the late war was that of flour milling. Some of the flour mills promoted have ceased to exist, having been swept away by the financial crash that followed. Many have, however, survived the trial, and these are now in working order. Prior to the war the production of flour in Japan was very limited, and the annual importation of 4,000,000 to 5,000,000 bags was found necessary.

It is computed that the annual production of eight companies does not amount to less than 6,000,000 bags. Deducting from the latter 4,000,000 bags, which is the average annual quantity imported, the surplus will be in the neighborhood of 2,000,000 bags. Not only is it estimated that this will effectually check the importation of flour, but it is thought probable that the surplus can be used in Japan and China by extending the market, always supposing, of course, that flour can be cheaply produced. It is, however, doubtful whether the Japanese flour-milling companies will be enabled to reap satisfactory profits in competition with American flour. The fact is that Japan is not yet in a position to produce wheat in sufficient quantity to satisfy the demand. The total yield of wheat in the country is estimated at 3,500,000 koku (koku, 5.118 bushels), of which half the quantity is absorbed in the manufacture of soy and miso. Consequently, of the 2,500,000 koku of wheat which is required for flour-milling purposes, about half the quantity has to be imported. Of course Japan can afford to increase the yield of wheat if a good price is assured, but this can scarcely be practicable for some years to come.

CHEESE OUTPUT OF CANADA.

CONSIDERABLE DECREASE IN ONTARIO—BRIGHTER PROSPECTS.

In forwarding Canadian newspaper statements relating to the reduced cheese output in the Kingston and Peterboro district of Ontario, Consul H. D. Van Sant makes the following comments:

With the enlargement of the Kingston consular district cheese production will be among its important industries. The exportation of cheese has decreased during the past year, and the outlook for an increased output for the next year or two is not promising. This condition should serve to give the American cheese exporter to Great Britain and other European countries an opportunity to build up the American market abroad to something like its former proportion.

The price of cheese in Kingston under quotation of May 20, 1908, is from $10\frac{1}{2}$ to $11\frac{1}{8}$ cents, white cheese selling at the latter figure. Last year the board at this time was cleared at $12\frac{7}{8}$ cents for white cheese and in some instances the record price of 13 cents was paid.

Last year's hay crop was the poorest for some seasons, and because of its scarcity and consequent high price many cows and cattle were killed off in the fall and winter. This season, however, the outlook is for an abundant crop of both hay and feed, with the probable effect that after a year or two the cheese output will be restored to normal conditions.

FOREST PRODUCTS.

HOUSE-BUILDING SUPPLIES.

SWEDEN.

REED LATHS USED INSTEAD OF AND CONSIDERED EQUAL TO WOOD LATHS.

The following information concerning the preparation and use of reed laths in Sweden, where wood laths, on account of their cost, are now little used, is furnished by Consul W. Henry Robertson, of Gothenburg:

Although Sweden is a country of unusually extensive forests, in proportion to its size, and is, therefore, better able than many other countries to stand a strain upon its wood products, it is found here that certain reeds form a much cheaper material than wood laths in the plastering of ceilings and wooden walls of buildings.

These reeds are of the common kind, known to botanists as *Phragmites Communis*, and as they grow wild in large quantities almost everywhere in central and southern Sweden, on the borders of lakes, ponds, rivers, smaller water courses, and in marshy places, it is thought that builders and farmers in the United States might do well to look into the entire proposition with a view of seeing whether these or similar reeds, that may undoubtedly grow wild also in the United States, could not be utilized for the same purpose and their growth artificially cultivated and extended. This would give rise not only to a cheaper building material, but to an industry of growing and harvesting the reeds, and manufacturing them into a sort of matting, where this is found preferable to using them in their raw state in building operations.

HOW REED LATHS ARE USED IN SWEDEN.

As to the methods used here in applying both the raw and the manufactured reeds to the walls and ceilings, as well as the machinery used in making the latter, it is thought that it would be easy materially to improve upon both, and it is the certainty of the ability on the part of Americans to do this with facility that makes the whole proposition capable of development and of a thoroughly useful application to our building operations. It is also not at all impossible that experimentation and development along the one line might show the reeds suitable for other purposes.

The reeds are used in Sweden in both the raw state and in the form of a woven sort of matting, according to the customs and preferences of the builders.

The method, however, that would be most likely to appeal to American builders is the one where the reeds are woven into a mat-

ting which is much more readily nailed to the walls and ceilings than where each reed is nailed on and wired by hand.

The following is a careful translation of a price list of the largest Swedish firm manufacturing the reed mats:

Mats to be used single, in widths of 2, 1.90, 1.80, 1.70, 1.65, and 1.5 meters (1 meter = 39.37 inches); mats, to be used double, in widths of 1.7, 1.65, and 1.5 meters, delivered in rolls of 20 square meters (1 square meter = 10.76 square feet), at a gross price of 65 cents per roll.

In single reeding the mats are nailed to walls or ceilings in the same way, viz: Fasten all the wires of one end of the mat, unroll the mat over the wall or ceiling; stretch the middle wire tight, be careful and see that the mat hangs or lies straight, and then stretch the other wires in the same degree as the first one. Then fasten every wire by nails placed about 6 or 8 inches from each other.

For ceilings the connecting edges of the mats should be dovetailed so as to make a joint about 5 inches wide, and loose wires are stretched along the joint and fastened in the usual way with 1-inch plastering nails.

For double reeding of ceilings or outside walls mats with larger spaces between the reeds are used; the inside mat is put on in the ordinary way, although a somewhat larger space between the nails may be allowed. Then the second mat is put on in such a way that its reeds come at right angle to the reeds of the first mat. The fastening is done with 1½-inch plastering nails.

As will be seen from the above the mats are of two different kinds, one more closely woven of heavier reeds, to be used single, and the other more openly woven of thinner reeds, to be used double. The warp in each case is annealed iron wire. The mats are delivered in rolls.

THE WILD REED.

The plant from which the reed grows is known by several names in Sweden, but is most commonly called "vass," or "vassrör." It seems to thrive best in shallow water on the edges of lakes, but it is also sometimes found as a weed among growing grain on low ground. It is the largest of the wild grasses in Sweden, and is considered good fodder for cattle, for which purpose it is often cut green. The tops are also sometimes cut off before they go to seed, and are then used by farmers as stuffing for beds and mattresses.

The full-grown reeds are about 7 or 8 feet high above water, and, when they are to be used as a plaster-fastening material, they are cut in winter, after the leaves have dropped off and the lakes have been frozen over. They are never harvested in boats. The frozen surface of the lakes makes the reeds much more accessible than if one had to reach them through water or swampy land; but they should be cut as early in winter as possible, before the snow has broken them. The reeds are not cultivated in Sweden, but are regarded as so common that it is impossible to procure the young plants or the seed except by giving a special order for some one to go into the country for them at the proper seasons of the year, the spring for the plants and the fall for the seed.

PRICES OF REEDS AND MATS.

There are no special purchasing agents or concerns in Sweden for the harvesting of the reeds. On the largest number of farms where such reeds grow the farmers themselves cut the reeds and sell them to the so-called revetting factories. The prices vary considerably in different years. On the average a bundle with a cross-section of 10 inches at the lower tie or brace, about 1 foot from the root end, costs, delivered on railroad car, 8 to 9 cents. The reeds are also often

bought in stooks of 20 bundles, each bundle being about 2 feet in circumference, and costs about \$1.07 per stook, or shock.

The mats are of different widths, from 1 to 2 meters, according to the length of the reeds. They contain about 20 square meters and have a selling price at the factory of about 1.90 kroner (50.9 cents) per mat, or about 10 öre per square meter (2.7 cents per 10.76 square feet). It is impossible to state with accuracy the number of mats made and sold in Sweden in a year.

REED VERSUS WOOD MATS.

A manufacturer writes as follows:

Reed laths are probably just as durable as wood laths. The writer has seen houses torn down which were at least seventy-five years old and found the reeds nailed to the walls just as sound as when they were put there. All depends, however, upon the manner in which the reeds are harvested and kept, because they are easily damaged if the bundles are kept wet or covered with ice. Wood revetting mats are scarcely manufactured any more in Sweden, because they are too expensive. Besides that, the reed mats are considered better and more practical, because when such are used the surface of the plastering does not crack, which was often the case when unseasoned wood laths were used. So-called loose reeding is used a great deal; that is, the loose reeds are nailed to the walls and ceilings by hand. If skilled workmen are available, such reeding can be just as good and practical as the mats. Whether one or the other of the two systems is used depends a great deal upon the custom of the respective building contractors. The old ones, among whom there are a number of conservative persons who hold on to old methods, prefer the so-called loose reeding. No practical preference can be given to either of the methods, except that when mats are used the reeding can be made more quickly and specially experienced workmen are not needed. The use of reed mats is also increasing, as compared with the use of loose reeds.

From the foregoing it will be noted that wood revetting mats are scarcely manufactured any more in Sweden, the reed mats being considered better and more practical for several reasons. The question not unnaturally occurs, however, as to whether it might not be a good idea for American lath manufacturers to try the use of wood revetting mats made after the Swedish model in case it should be found impracticable to grow or import the reeds. It would seem to furnish a cheaper and quicker method of attaching the laths to the walls and ceilings with much less labor. It appears that the insulating properties of wood and of the reed laths are considered about equal.

The manufacturer who supplied the prices and the mode of putting up the reed mats supplies similar information concerning the price and putting up of wood laths, as follows:

Dimension, 1 by 20 meters, at a list price of \$1.34 per roll. The fastening of wood lath mats is done in the same manner as described for reed mats. Lath nails $1\frac{1}{4}$ inches in length are most suitable, and the nails should be driven in through the small opening found between the twisted wires close to the lath. In order to facilitate the making of proper seams or joints between two mats, the end of every other lath protrudes beyond the next one.

SUPPLY OF REEDS.

The supply of reeds in Sweden is very large and much in excess of the home demand, so that great quantities, which are never harvested, could be available for export. The fact that the mats have not been exported to the United States is very likely due to the transportation costs for such cheap and bulky goods. All depends ultimately upon what price could be obtained for the mats in the United States and whether the reeds themselves could be cultivated and harvested there

at less expense than it would cost to import them. If the reed mats could bear the freight charges to the United States, there should not be any insuperable obstacle to the import of such from here. Still, it might be found more practicable to import the loose reeds and make them into mats in the United States. Or, better still, in case the reeds already grow, or can be made to grow, in the United States, machines for the manufacturing of the mats could readily be purchased here and improved upon. The matter seems well worth careful investigation, and this consulate stands ready at any time to give any further specific information that may be desired and that is procurable. The question is one that must be looked at both from the agricultural or producing standpoint and the commercial standpoint.

Parties in the United States interested in the general subject or any of its specific features, or in the importation of the loose reeds, the reed matting, or the machines for making the latter, could not do better than enter into correspondence with the concerns whose names and addresses are forwarded. [Names and addresses, together with illustrations of revetted reed and wood lath mats, prices of machinery, etc., are on file in the Bureau of Manufactures.]

GERMANY.

THE USE OF REEDS AS SUBSTITUTES FOR LATHS IN PLASTERING.

In replying to a communication from an American correspondent, Consul H. W. Harris, of Nuremberg, furnishes the following information concerning the use of reeds for lathing for plastering:

The use of small reeds as a substitute for plastering laths is common in Germany and in other parts of Europe. The reeds used in this industry are chiefly imported from Hungary by Danube boats, and vary in length from 1 to 2½ yards or even more, and from ¾ inch to 1½ inches in diameter. The supply in Hungary is said to be abundant, but to be decreasing through drainage of swamps.

By means of machinery these reeds are fastened together by wires so as to form a continuous mat as wide as the reeds are long, and which is cut with shears and fastened to walls or ceilings in place of laths. In some cases builders require the matting to be put on double, the aim in this case being to have the reeds in the upper mat fall at the interstices in the lower mat. The reeds are usually about ½ inch and the connecting wires about 8 inches apart. The wires are usually galvanized, and consist of a heavier wire about a millimeter (0.0394 inch) in diameter and a lighter wire half this diameter. The lighter wire, after passing over a reed, is twisted three or four times around the heavier wire, then passes over the next reed, then around the heavier wire, and so on, each reed thus being kept in place. In some of the machinery used the successive twists of the smaller wire around the larger are on a line with the centers of the reeds; while with other machines the line is tangent to the circumference of the reeds. In the latter case it is as if the reeds were simply laid one after another on a straight wire, the smaller wire forming the entire loop around the reeds.

Two classes of machines, power and hand, are in use in the Nuremberg district for the manufacture of the matting, and the amount of work that can be done with both differs very little, being in both cases 250 to 300 square meters (300 to 359 square yards) per day of ten hours.

A gentleman of much experience in this industry states that the machinery in his own factory, and in all other factories so far as he has knowledge, is defective, in that the reeds have to be fed in endwise instead of sidewise by an operator standing in front of the machine. If a reed is partly broken or is bent or otherwise imperfect, it is difficult to push it into proper position. He referred to a Hungarian inventor who claims to have overcome this difficulty, and who is about patenting his invention in the United States.

The reeds as imported retain over practically their entire length the lower or sheath part of the leaves. The removal of these sheaths is a tedious process done by hand. At the present rate of wages in the United States it is doubtful whether it would pay to do this work there.

Reed matting on board cars at the factories in this locality sells at about 2½ American cents per square meter (10.76 square feet).

HONDURAS.

IMPORTATION OF PORTABLE HOUSES GROWING IN CENTRAL AMERICA.

Consul Drew Linard writes from Ceiba that the time and opportunity is ripe for manufacturers of the portable cottages that are so extensively used in the United States for camps, resorts, and on construction works to advertise and push their products in Honduras. The consul gives the following practical trade pointers:

Prior to the recent activity in building construction here 90 per cent of the homes were 1 or 2 room adobe or pine shacks with thatched roofs. The demand for a better class of dwelling is becoming more general. The large profits realized by the small banana grower enables him to improve the comforts and appearance of his home.

A very plain 1-story, 4-room house, with kitchen attached, has been adopted as the popular style of architecture. These houses, which cost about \$1,500 United States currency to construct, are roofed with the heat-absorbing corrugated galvanized-iron sheets, have a porch along the entire frontage, and windows without glass, a large wooden shutter answering the purpose. The interior is unsheathed, all joists showing, and the room divisions are of lapped boards. Owing to faulty construction and poor material few of the recently constructed houses here are impervious to the frequent torrential rains in this region.

The cost and addition of acetylene gas and water tank is optional with the tenant and depends upon his purse and disposition as to these luxuries.

The culled white pine known to the trade as "seconds" is the only kind of lumber used in the construction of these houses, and costs 90 soles (about \$45 gold) per 1,000 feet B. M., the climate limiting its period of usefulness to three years, more or less. The carpenters receive 6 soles a day of nine hours. They are, as mechanics, slow in execution and primitive in ideas.

A 4-room portable house, with porch and kitchen attached, could be delivered and erected here at a lower cost than for a building erected by the prevailing method of construction, and would be much more attractive architecturally, more durable, and give greater comfort and satisfaction to the owners.

INDIAN LAC.

PRODUCTION OF THE RESIN AND VALUE OF THE INDUSTRY.

From a monograph prepared by the Imperial forest zoologist and printed by the government of India concerning the lac industry, Consul-General William H. Michael, of Calcutta, furnishes the following information:

This publication is of special interest to students and business men in the United States because of the growing importance of the trade in lac between India and the United States, which amounted last year to \$5,598,333. The total export of lac from India to all countries during the fiscal year 1906 amounted to about \$11,111,000, and in 1907 to \$11,535,502, an increase of \$424,502. In the exports of lac the United States stands first, taking more than all other markets combined; the United Kingdom next, followed by Germany. The monograph says:

Lac is a resinous incrustation excreted by a scale insect known as *Tachardia lacca*. The mouth parts of this insect consist of a beak or sucking apparatus combined with a pointed lancet. With this latter the scale pierces the bark of the twig of the tree and then inserts the sucking tube and draws up the sap. The insect may be likened to an animated siphon, since the sap continually sucked up through the beak is, after modification and absorption of some of its products, given out as an excretion at the anal end of the body.

This excretion solidifies on contact with the air, and thus there is gradually formed around the body a "scale" or "cell," popularly known as lac. Were only a single insect present on a branch the scale would appear as a circular, dome-shaped, reddish excrescence on the surface of the bark. Owing, however, to the production by the female of a very large number of eggs (as many as 1,000) and the habit of the insects, which, indeed, is common to many of the family, of living and feeding gregariously, closely packed together on one twig, the scales of cells coalesce during their formation and result in the production of a continuous incrustation on the twigs, which on collection forms the article of commerce known as stick-lac.

SHELLAC AND DYESTUFF—OPERATION OF THE INDUSTRY.

From this stick-lac the product known as "shellac" is manufactured. There is a second substance obtainable from the scales and known to commerce as "lac-dye," for which formerly there was a considerable demand—a demand which, owing to the introduction of synthetic dyes, has practically disappeared. This product consists for the most part of the material from which the eggs are developed in the body of the female insect. There is still a small export of this lac-dye from India, but the total value for the whole of India is extremely small.

The cultivation and collection of the lac was, and practically still is, chiefly in the hands of the aboriginal races of the poorer parts of the country, and the methods of propagation and collection still in force are those which were in existence centuries ago. These methods satisfied the demand for the article in the country and, until quite recently, that of the export trade. This latter was developed slowly. It took nearly half a century for the properties of the resin to be fully appreciated in Europe. It was the dye which first made its appearance in Europe, and its export was long limited by the difficulty experienced in extracting the coloring matter and applying it to manufactures at home.

At the beginning of the nineteenth century the exports of lac dye from India were five to six times more valuable than those of the resin. As showing the progress of the industry and the growing de-

mand for shellac and decrease in utility of lac dye between 1868 and 1900, the value of the exports of the former increased from \$613,830 to \$3,088,533, while that of the latter decreased from \$148,537 to nothing.

FURNITURE MARKETS.

CHINA.

CONSIDERATION OF CHARACTERISTICS OF THE CLIMATE AND PEOPLE.

The following report is from Consul Wilbur T. Gracey, of Tsingtau, in response to inquiries on the part of American furniture dealers as to opportunities in China:

Manufacturers who intend to ship furniture to China should take the climate into consideration. In the months of June, July, and August, excessive dampness is prevalent throughout the entire country, especially in the southern ports, Hongkong, Amoy, Canton, Foochow, and Swatow; in Shanghai the dampness is usually in June or July only, and Tsingtau and farther north the fogs and dampness are usually over by the end of June.

During these damp months furniture which is put together with glue falls apart, drawers stick, rolling tops refuse to work, and flat tops warp and split. Furniture for use in this climate must, therefore, be especially well seasoned before its manufacture. During the winter months in North China the climate becomes extremely dry and in and about Peking and Tientsin the country is visited by heavy dust storms. Furniture which has buckled and warped during the summer returns to its normal state or else goes to the other extreme and exhibits cracks often half an inch or more in width.

LOCALLY MADE GOODS AND WOODS USED.

Most of the furniture in use in Tsingtau, as elsewhere in China, is manufactured roughly in local shops. Teak wood is considered the most satisfactory, although American oak and pine are being considerably used, and the local pear, pine, and chestnut are in common use. Camphor provides a hard wood which is especially useful for chests of drawers, trunks, etc., as clothing containers. It does not split or warp as badly as the previously mentioned woods.

In the old days of sailing ships, considerable quantities of furniture were imported into the southern ports of China, but since the advent of steamers this trade seems to have considerably decreased. English manufactured furniture can still be purchased in Shanghai and Hongkong, but most of that used by the European and American residents is of local production.

In making the roughly finished local furniture quartered oak or other quarter-sawed woods seem to be unknown. The furniture sold in Tsingtau is all locally produced, mostly by Chinese firms, though there are two German steam sawmills manufacturing a certain amount. Their prices are equally high, if not higher than that of American furniture laid down here, and while the trade is not large, there should be an opportunity to introduce American goods in competition. The sales are limited to the foreign residents, and as 99 per cent are Germans, furniture of German models is usually sold. It

would be well, therefore, for American manufacturers to modify their styles to meet the local demand.

CONSTRUCTION SUGGESTIONS—WESTERN IDEAS SPREADING.

All furniture should be put together with screws, no glue being used, and if possible should be so that it can be knocked down for shipment, freight being an important point in considering prices.

A large number of bent-wood chairs are found in the hotels and houses, doubtless originating in Austria or Germany, and are also being used by the Chinese in the adjoining province of Shantung. These chairs retail in Shanghai and other China ports at from \$1 to \$2 United States currency each, and at lower prices in quantities. They come knocked down into small compass and command a ready sale. Chairs of a more expensive kind, upholstered in leather or bright-colored tapestries, come from Germany to Tsingtau and from England to Shanghai and other ports.

Dining room furniture, such as sideboards, buffet, extension tables, china cabinets, etc., are chiefly made here, though a certain amount of the better class of goods comes from Europe. Sideboards are larger in size and usually more richly carved and finished than in America. They usually have plate glass mirrors inserted in the back, with plenty of carving about the mirror and drawers. Especially is this the case with goods manufactured for the use of the better class of Chinese, who are becoming gradually users of foreign-style furniture, many of the richer merchants having their dining rooms fitted up in a European manner. They are especially fond of gilded mirrors, or gaudily hand painted ones in heavily gilded frames. Almost all the residences of the Chinese officials now have their "foreign style" reception room, and pay excessively high prices for the local crude products of Shanghai. Most of the furniture manufactured in China is copied from English designs, though in Tsingtau German models predominate. Every carpenter is provided with British and American furniture catalogues, and they appear to be quite ingenious in making apparently exact replicas of the articles selected from the catalogues.

SELLING METHODS.

It might be a good plan to sell furniture in China knocked down and "in the white," that is unpainted or without upholstering, though foreign goods usually attain their sale because of the superior finish and polish which the Chinese seem unable to accomplish. American furniture laid down in China at anywhere near competing prices would certainly command a sale, as the locally produced articles lack uniformity, the fitting of the parts very poor, and as nothing but hand machinery is used the result is always rough. Furthermore, the wood being badly seasoned the productions are not of lasting quality.

Furniture could not be sold here by catalogue. Probably the best way to introduce would be to communicate with local dealers and, after securing their advice, forward a selection of articles for sale on commission. The system of "cash with order" used by most American business men is not a satisfactory one in dealing with foreign merchants. The standing of local firms can be easily discovered through such institutions as the Hongkong and Shanghai Banking

Company or the Deutsch-Asiatische Bank, and when familiar with such particulars there is no reason why such business men should not be given such credit as would be extended to men in similar lines in the United States.

BRITISH SOUTH AFRICA.

FAVORABLE OPENING FOR AMERICAN BENT-WOOD CHAIRS.

Vice-Consul-General George Loomis Foster, writing from Cape Town, says that for the past ten years the sale of Canadian-made bent-wood chairs has been increasing in South Africa and they are to be seen all through the country. Details of the trade follow:

While the ordinary retail furniture dealers in Cape Town and other large centers do not sell many of the chairs, the wholesale houses are said to import them very largely, and sell them through the small country shopkeepers and city auction rooms. These chairs sell well because they are cheap, serviceable, and attractive. They are made principally of elm, and shipped knocked down. Their low price and neat appearance make them more desirable than the English and German bent-wood chairs, of which so many have been sold in all parts of South Africa.

A catalogue published by one of the Canadian manufacturers has been secured, from which illustrations of the most salable styles are taken and attached to this report, with prices per dozen marked in red ink f. o. b., New York, Boston, Portland, St. John, or Montreal. [These illustrations, as well as the addresses of the principal importing houses are filed for trade reference with the Bureau of Manufactures.]

WHOLESALE AND RETAIL PRICES.

The styles said to have the largest sale are those marked from \$7.50 to \$10 per dozen. The \$10 per dozen chairs cost landed in Cape Town, inclusive of 15 per cent valorem duty, dock dues, and delivery to city warehouses, 59 shillings (\$14.35) per dozen, or 4s. 11d. (\$1.19) each. The wholesaler is, therefore, able to sell the chair at 70 shillings (\$17.03) per dozen, with a fair margin of profit, and the retailer secures a satisfactory margin when selling at 7s. 6d. (\$1.82) each. The expenses of importing the cheaper styles are, of course, greater in proportion, amounting in some cases to 45 per cent.

Our American manufacturers would find no difficulty, it is said, in securing a fair portion of this trade if they can quote prices on similar styles which will, after taking into account the 3 per cent customs preference which Canada enjoys, be equally advantageous to importers.

At the present time no similar lines are being offered in South Africa from the chair manufacturers in the United States. A Canadian company supplies the greater portion of the Canadian chairs, and have placed their agency for South Africa in such a manner that their agent, who is a wholesaler and a retailer of furniture, gets a royalty on all the chairs of their make sold in South Africa. Both the commission houses and the dealers would be pleased to see some competing manufacturer get a foothold.

RUBBER PRODUCTION.**MEXICO.****USE OF GERMAN METHODS FOR GUAYULE—NEW SOURCES OF GUM.**

Consul Clarence A. Miller, of Matamoros, supplies the following account of the processes employed in Mexico for extracting rubber from shrubs, the article being prepared at his request by a Monterey chemist, who wrote:

There are, as far as I know, two German chemical processes in use in this country for the production of rubber from the guayule plant. One of these is based on the application of alkali, the other one on the use of benzol and alcohol. However, the system mostly used by the largest factories seems to be the separation of the rubber from the shrub by boiling at a temperature of about 130° C. three hours, more or less, and adding to the water caustic soda or simply lime; some also add salt to the lime. These substances are used against the resinous contents of the plant which are extracted, together with the rubber. I have another chemical process which I consider the best. A part of my process is used by the Saltillo factory, which selected the benzol method over the boiling process mostly used after they had invested several hundred thousand dollars in a boiling plant. The latter are the most expensive in construction but the cheapest in operation; their disadvantage consists in the great loss of rubber (about 3 to 4 per cent), as well as in the quick spoiling of the rubber, which does not last as long as that chemically produced.

In addition to guayule, there are in this country other plants containing rubber, but not enough to pay the expense of the extraction of it. Experiments are being made with the candellala, which is claimed to contain 3 per cent rubber, considerable resin, and also a high percentage of wax. Some trial carloads of this plant have been exported to Belgium. There are in New York excellent chemical laboratory firms which know all about guayule rubber and its extraction. If new plants said to contain rubber are examined by them, they can supply all the scientific and practical information needed.

ITALY.**SUCCESSFUL EXPERIMENTS IN SICILY—GOVERNMENT AID.**

Consul James E. Dunning, of Milan, reports that as a result of long experiments made in Sicily, the ministry of agriculture has been advised that rubber trees can be successfully cultivated in that part of Italy, to which he adds:

The rubber secured from the experimental trees has been carefully tested by a Milan manufacturer and has proved to be of good quality. The official report declares that conditions of soil and temperature are equal in Sicily to those in the best rubber-raising countries.

It is estimated that ten years of preliminary cultivation is necessary here to bring trees to profitable productiveness, and as it is impossible for the country to meet such an interval the assistance of the Government has been asked and is being considered. As the proposition has reached the ministry it is said to contemplate the free Government distribution of young trees and money awards for successful cultivators.

TEXTILES.

COTTON GOODS TRADE.

GERMANY.

RESULTS OF PAST YEAR'S OPERATIONS AND PRESENT CONDITIONS.

Consul Thomas H. Norton, of Chemnitz, advises that the Union of South German Cotton Manufacturers has just issued its annual report, which offers an interesting view into the conditions of the cotton industry at the close of 1907. He reviews the industry as follows:

As compared with 1906, the mills connected with the union increased their number of spindles from 2,644,562 to 2,811,474, and their looms from 45,595 to 48,753. The general situation in this branch is thus summarized:

At the close of the year a strong retrograde commercial movement set in. It was followed by a fall in the price of raw material and an uninterrupted shrinkage in business, which certainly has not yet attained its lowest point. Despite the extensive contracts at advantageous rates concluded in the latter half of 1907, the results of the business depression in the United States have produced such a measure of reserve and distrust among buyers that general confidence in the stability of the market and of the consumptive demand is seriously impaired.

POSSIBLE LESSENING OF PRODUCTION.

The prospects of the cotton industry in the immediate future are in no way satisfactory. In fact, as the import of British and Indian yarns into the German market increased rapidly during the closing months of 1907, we must now expect to face in a still greater degree the competition of English spinners.

Under these circumstances it is not improbable that the demand for an increase in the tariff on the importations into Germany of the coarser counts of yarn will become more insistent, and that the difficulties accruing to German textile interests in regard to foreign markets, as a result of the various reciprocity treaties, will, for the first time, become clearly and actually evident.

In this connection it is to be noted that there has been a marked diminution in the output of the cotton-spinning mills in the region tributary to Chemnitz during the past two months, especially in those supplying the coarser varieties. While the large mills of Chemnitz itself have thus far neither restricted output nor lowered wages, unless a material change in the general situation soon becomes evident, a lessening in the production will inevitably ensue.

TURKEY.**PURCHASES OF COTTON YARN AND THREAD ON REEL AND SPOOL.**

Consul-General Edward H. Ozmun, of Constantinople, makes the following report on the cotton yarn and thread trade of Turkey:

The Ottoman custom-house returns for the financial year ending March 13, 1906, which are the latest published, show that cotton yarn to the extent of \$6,456,807 and thread on reel and spool for \$1,576,024 were imported into Turkey from the following countries:

Country.	Yarns.	Thread.
Great Britain.....	\$3,908,225	\$830,218
Austria.....	943,967	305,153
Italy.....	1,309,440	278,410
All other countries.....	295,175	262,273
Total.....	6,456,807	1,576,024

Owing to the Turkish method of compiling statistics, Great Britain is credited with somewhat more than her share of this trade and for the same reason Germany is given credit for barely one-third of her actual exports to Turkey, while Austria is credited with half as much again as her actual exports. This is explained by the fact that considerable German merchandise is shipped via Trieste and credited as Austrian merchandise. It is apparent that almost the entire amount of yarn and thread credited to Austria is of German manufacture. Great Britain furnishes the largest amount of sewing cotton. I see no reason why the United States should not be able to secure a share in the Turkish yarn and thread trade.

MARKET IN ASIATIC TURKEY.**OPENING FOR AMERICAN PIECE GOODS IN HARPUT.**

Consul Evan E. Young, of Harput, furnishes the following information concerning the promising field which his consular district offers for American cottons:

Gray cotton sheetings to the value of nearly \$500,000 were imported into the vilayet of Diarbekir (this consular district), during the last calendar year. Nearly all of these were of English make and were purchased in Constantinople and other coast cities. From a careful comparison of the quality and cost of these and some of our American sheetings, I am convinced that American exporters of these goods can establish and maintain a very satisfactory market in this vilayet, provided the matter is given a little care and attention.

Several brands of American sheetings are meeting with splendid sale in the vilayet of Mamouret-Ul-Aziz, which adjoins that of Diarbekir, and there appears to be no reason why they should not find as good or even more active demand in the latter district.

With a desire of assisting American exporters in this matter as far as possible this office has taken up the question of the introduction of American cotton goods with several of the larger importing firms in that district, and one of the largest firms importing cotton goods in the city of Diarbekir is anxious to receive from American manufacturers and exporters samples of cotton sheetings (gray) with prices quoted c. i. f., port of Alexandretta. Terms of payment should

be made, if possible, cash against shipping documents at port of arrival, i. e., Alexandretta.

Samples with letters of advice as to cost, terms of payment, etc., should be sent direct to the firm. [Address on file in the Bureau of Manufactures.] Should further information be desired, this office will promptly secure and forward it.

JAPAN.

ADVANCE IN THE WEAVING INDUSTRY—TRADE WITH CHINA.

The following statistics covering the marked progress of the weaving industry of Japan and Japanese trade with China are furnished by Consul Hunter Sharp, of Kobe:

During the last five years the weaving industry in Japan has shown marked progress, as may be seen from the following statement: The number of weaving looms increased from 4,993 in 1903 to 9,259 in 1907, while the exports of cotton piece goods increased from \$3,544,018 in 1903 to \$9,185,493 in 1907. The production of cotton piece goods in 1907 was 80 per cent greater than in 1903.

The manufacture of cotton towels has also greatly increased; the official statistics give 103,573 dozen produced in 1907, as against only 32,784 dozen during the previous year.

Though there is still a large quantity of cotton piece goods imported into Japan, the Japanese are working to improve their production with a view to checking foreign importation, as was the case with cotton yarn prior to 1894.

TRADE WITH CHINA.

The following statistics concerning the trade of Japan with China in cotton yarns and piece goods appear in a local English Kobe newspaper:

The price of Japanese yarn is largely regulated according to the prospects of its China trade, and Japan's most formidable competitors in the China market are Indian and Chinese yarns. The restriction of production by the Japanese spinners will not only reduce the supply in China, but the shortage will have to be supplied by Indian and Shanghai yarn.

The quantity and value of Japanese yarns exported to China and the quantity and value of Indian yarns imported into China during the five years ended with 1907 were as follows:

Year.	Exports from Japan to China.		Imported into China from India.	
	Piculs. ^a	Taels. ^b	Piculs. ^a	Taels. ^b
1908	881,406	20,759,664	1,880,911	45,279,099
1904	638,729	15,973,390	1,628,783	42,893,390
1905	681,442	17,791,368	1,846,846	47,556,392
1906	654,371	16,649,172	1,840,235	46,109,724
1907	572,604	.....	1,893,894	.....

^a Picul=133½ pounds.

^b Chinese customs tael on July 1=65.5 cents.

As will be seen from the foregoing, India is supplying to China three times as much yarn as comes from Japan, and there is a tendency toward a yearly increase in India's supply.

For cotton piece goods there exists as promising a market for Japan in China as for cotton yarn, and yet Japan's share therein is so small as to be only 5 or 6 per cent of the total imports. When everything is taken into consideration, the well-nigh limitless nature of the demand that exists for these goods in China may well be imagined.

CHINA.

EXCELLENT PROFITS OF A MILL LEASED FROM THE GOVERNMENT.

Vice-Consul-General Albert W. Pontius, writing from Hankow, describes the successful operations of a Chinese cotton mill:

The Chinese Government some years ago established four industries in Wuchang. The industries comprised a silk filature factory, a ramie factory, a spinning mill, and a cotton-cloth mill. The officials conducted these ventures for nearly ten years, but owing to the financial losses experienced in their operation the industries were leased to Chinese merchants at \$120,000 per year. Some five years ago Mr. Teng, the compradore of the Hongkong and Shanghai Bank at Hankow, negotiated for a five-year lease, which recently expired, and his profits for the lease period amounted to nearly \$480,000. A Mr. Wei, a wealthy tea merchant, has now taken over the lease.

All the machinery in the cotton-spinning mill was manufactured in 1895 by a British concern. Nos. 14 and 16 cotton yarns are produced. The No. 14 is made on frames of 140 spindles each, and the No. 16 on frames of 160 spindles each. The factory turns out 5,000 pounds of yarn per day, which amounts to about 40 bales. The No. 14 yarn has 14 skeins in one packet and 40 packets in one bale, and the No. 16 yarn 16 skeins in one packet and 40 packets to the bale. The power for the whole factory is supplied by a 1,500-horsepower engine having four boilers, which in operation consume about 30 tons of coal per day. About 900 persons are engaged in the mill, the majority being boys of 12 to 15 years of age, the latter being chiefly employed in the spinning work, being more adept at handling the yarn than the men.

The spinning plant of the cotton-cloth factory is one-third larger than that of the yarn mill. The factory has 692 weaving machines, 500 of which are at present in operation. The output per day is about 20 bales of a cloth something thicker than foreign calicoes. Each bale consists of 15 pieces, and each piece is 40 yards in length. All of the machinery in this plant was manufactured in England in 1891. About 1,200 persons are employed in the mill, the boys attending to the spinning and the men to the weaving, etc. The power for the whole plant is supplied by an engine of 2,200 horsepower, having six boilers.

SALVADOR.

MEXICAN VERSUS AMERICAN PIECE GOODS IN THAT MARKET.

The following information relative to the appearance of Mexican piece goods in the Salvadorean market is furnished by Consul-General Samuel E. Magill, of San Salvador:

Early in the present year the representative of a Mexican cotton mill appeared in this city and offered grays or sheetings and zephyrs to the local merchants in competition with American goods of a similar class. Several of the merchants purchased thereof in amounts of from \$600 to \$2,000 gold, at 5 cents per yard f. o. b. Acajutla, cash on receipt of goods.

Of course the recent substantial drop in the price of American cottons will give them the market for a while, but when prices again become normal our cotton exporters will find a rival for the market of Central America in the mills of Mexico, especially if the Mexican

Steamship Company, now operating a line of steamers between the Pacific ports of Mexico, avails itself of a privilege in its charter to extend its voyages to Central American ports, for which increased service the Mexican Government is now ready to pay a substantial subsidy.

TEXTILE INVENTIONS.

GERMANY.

NEW LEASING MACHINE EFFECTS ECONOMY IN YARN PREPARATION.

Consul Thomas H. Norton, of Chemnitz, thus describes a newly invented German machine for leasing yarn:

One of the slowest operations in connection with weaving is that involved in the leasing of yarn when mounting warps. Hitherto this has been done by hand, with considerable expenditure of time. A recent invention of Saxon weavers represents a distinct step forward in substitution of machine work for hand labor in the adjustment of warps for use on the loom. Their mechanical device has been patented in Germany (D. R. P. No. 195933) and in several other countries, and a dozen of the new machines have recently been constructed in Saxony and are in active operation in Germany and Austria. They are sold for 1,000 marks, or \$238.

Two views of the device [illustration of which may be obtained from the Bureau of Manufactures] show the comparative simplicity of the mechanism and the method of its application. The warp beam, with its yarn, is laid in the channel of the machine. Sections of the yarn, covering a width of about 2 feet usually, are then stretched forward, and the mechanism is placed alongside. On being put in motion it leases the threads rapidly and accurately on the lease rods, the action being automatic. The rapidity attained is many times that of leasing by hand. It ranges from 20,000 to 25,000 threads per hour. Changes of gear, in consequence of alteration in the thickness of the yarn, are required only when there is an increase or decrease of over 65 threads per inch. The machine can be constructed so as to lease the entire contents of any warp beam.

ADVANTAGES OF THE INVENTION.

Experiment has shown, however, that equally good results are secured by the use of a smaller, less expensive, more compact arrangement, leasing successive sections, as shown in the illustrations. It is claimed that the machine remedies the disadvantages that now accompany the combined use of sizing and warping machines, without subsequent leasing. Piecers are now paid from 13 to 18 pfennigs (3.1 to 4.3 cents) more per 1,000 threads for attaching the warp yarn when no lease is present. The employment of the machine in ordinary weaving causes in this connection alone a weekly saving of \$15 and more in piecers' wages, apart from the greater rapidity in joining threads, especially in preparing a jacquard loom for use, when the yarn has been properly leased. The inventors state that all sizes of yarn can be leased, and that especially good results can be obtained when the beam carries the finest grades; further, that all necessity for piecers in connection with threading is avoided, and that greater evenness and uniformity in the subsequent woven fabric are obtained than is the case when the leasing is done by hand.

UNITED KINGDOM.**LACE MACHINE FOR EFFECTING ECONOMY AND LARGE PRODUCTION.**

Consul Frank W. Mahin reports that what is claimed to be the largest lace machine ever made has just been built in Nottingham, which he thus describes:

The machine contains many important improvements, designed to counteract the influence of a foreign machine of similar character which has proved a serious competitor to the usual type of Nottingham lace machines. The new machine is 41 feet long and produces lace 260 inches wide. It is intended chiefly for heavy Torchons and Maltese laces.

A special feature of the machine is the entire absence of vibration—a defect fatal to many lace machines. This improvement, which is deemed remarkable because of the machine's great size, is produced by special gearing and by an arrangement of concussion springs instead of the ordinary elastic or spiral springs. Other improvements simplify and make easy the operation of putting in threads to replace broken ones and of taking the carriages out of the machine—operations slow and laborious in many machines and sometimes damaging the lace that is being woven. The new machine is so satisfactory that the construction of several more of the same kind is begun.

BRITISH FLAX HANDLING.**AN IMPROVED PROCESS FOR UTILIZING REJECTED FIBER.**

Consul Frank W. Mahin writes from Nottingham that a resident of Long Bennington, Lincolnshire, has invented a process whereby that quality of flax fiber which has always been cast aside or destroyed as worthless may be bleached and turned into a valuable commodity. The consul adds:

The nature of the process is kept secret, but the samples shown as products of the invention seem to fully sustain the claims.

According to the explanations, the inventor operates particularly on fiber resulting from flax grown for linseed oil. While connected with a Canadian flax-growing firm, which used the fiber chiefly for making binder twine, an attempt to bleach this fiber suggested to the inventor the possibilities of the process. He returned to Nottingham, where the facilities for experimenting with bleaching were better, and now claims that his process is successful. Of two samples of the product shown to me, one is practically as white and fine as cotton. This is claimed to have all the hygienic advantages of linen over cotton as well as much greater absorbent power. The other sample is creamish hued, with a long, tough staple resembling coarse thread. This and similar results of the process, the inventor says, can be used for waste, for boxes of railroad car wheels, for gun cotton, upholstery work, etc.

A great difficulty encountered by the inventor was the straw in the flax fiber, but after many trials and failures he finally discovered a chemical process whereby the straw was dissolved to a minimum. As to cost of the process no direct statement is made, but the inventor says that the flax fiber can be bleached at less cost than that of bleaching cotton.

Part of the experiments are stated to have been made with fiber of flax grown by a Lincolnshire farmer. Having secured linseed from his crop, the farmer could do nothing with the fiber. The inventor states that in two hours he bleached it perfectly white, only needing the machinery to turn it into "linen wool."

The invention derives its chief importance from the utilization of a hitherto rejected and worthless substance. The amount of this the world over must be vast, and large in any country where flax is grown extensively. The inventor states that in the Province of Ontario over 6,000 acres are devoted to flax and nearly 50,000 acres in other parts of Canada; and that the Ontario agricultural department has spent large sums of money in seeking some means of utilizing the rejected flax fiber, but without tangible success. As over 25,000,000 bushels of flaxseed are annually produced in the United States, presumably resulting in an immense quantity of waste fiber, there is apparently abundant material for this invention to work upon.

FURTHER SPINNING CURTAILMENT.

ANOTHER REDUCTION OF HOURS OF LABOR IN IRISH MILLS.

Consul Samuel S. Knabenshue, of Belfast, reports that the Irish Flax Spinners' Association have further reduced the hours of labor in the spinning industry by five hours per week from June 15. He adds:

Full time in the mills is fifty-five hours per week. In November, 1907, this was reduced to forty-five hours, in February last a further reduction was made to thirty-seven hours, and the present cut is to thirty-two hours. It was agreed, however, that the women spinners shall not be reduced in wages, but shall receive the same pay for thirty-two hours as they have been receiving for thirty-seven hours. The step now taken is simply to reduce the output of yarns, which is now larger in volume than the demand.

UNDER-GARMENT MARKETS.

MEXICAN TRADE OF GROWING IMPORTANCE TO AMERICAN MANUFACTURERS.

In reply to a communication from a New York manufacturing company desiring information concerning the extent of the trade in Mexico in women's under-garments, Consul William W. Canada, of Veracruz, writes as follows:

The trade in women's ready-made underwear, and other light-weight garments of a similar nature, is assuming larger proportions from day to day, and promises to be of importance to American manufacturers seeking trade therein in this market.

With a view of placing before the American manufacturers all the data obtainable with reference to the amount and value of imports, the place of origin of the goods, names of the principal importers in this line, amount of duty payable on this class of merchandise, etc., this consulate has made diligent inquiries.

IMPORTS AND WHENCE IMPORTED.

Owing to the system of classification under the Mexican tariff, the actual amount and value of a special line of goods can not be obtained.

All articles of wearing apparel are classed under a general head, which includes everything coming under the classification of textiles and cloth. These imports amounted during the year of 1906 to nearly \$5,000,000 gold. The section of the tariff providing for imports of this kind reads as follows:

SECTION 369. Ready-made clothing, not specified, and separate parts thereof, when sewn, of cotton of all kinds and textures, even trimmed with lace, embroidered edgings of cotton or linen, silk ribbons or ornaments of common metal, for every kilogram (2.2 pounds), legal weight, \$2.75 Mexican (\$1.37 gold).

Legal weight is the weight of an article with its wrapper, cover, can, box, etc., without taking into consideration the weight of the outside packing case.

At the present time many of these goods are procured from France, and in many instances they are purchased direct by the consumer. This practice is followed by the richer class. American goods are also in use, mainly due to the numerous catalogues introduced here by American residents, who have shown them to their friends. Professionals are also making use of these publications in copying the styles that have found favor with the people.

It must not be supposed that all the importations at this port are consumed in this district, much of the merchandise arriving here being destined for points in the interior, principally Mexico City, where there are large modern establishments on the lines of department stores in the United States. [A list of the principal importing dry goods houses at Veracruz is on file in the Bureau of Manufactures.]

NICARAGUAN SILK CULTURE.

FIFTY-YEAR CONCESSION GRANTED BY THE GOVERNMENT.

Consul José de Olivares forwards from Managua a copy of a fifty-year concession granted by the Government of Nicaragua for the introduction of silk culture into the Republic, which is deemed suitable for this industry. A grant of 12,355 acres of land and water power is given, and three years are allowed for experimental work, within which period plantations of the mulberry tree must be established in various parts of the Republic, with a view to ascertain the locations best adapted to the production of silk.

METALS AND MINERALS.

THE WORLD'S MINES.

CANADA.

STATISTICS OF THE OUTPUT OF MINERALS IN BRITISH COLUMBIA.

Consul Abraham E. Smith, of Victoria, writes that the recent official report of the minister of mines of British Columbia shows that 1907 was the record year of the province, as the following summary will make clear:

The output for last year was valued at \$25,882,560, being an increase of \$902,014 over that of 1906. The following table, which gives the different items of the products, shows that the increase was entirely in coal and coke, there being a decided falling off in the output of gold, silver, lead, and copper:

Description.	1906.		1907.	
	Quantity.	Value.	Quantity.	Value.
Gold placer.....ounces..		\$948,400	41,450	\$828,000
Gold lode.....do....	224,027	4,630,639	196,179	4,055,020
Silver.....do....	2,990,262	1,897,320	2,745,448	1,708,825
Lead.....pounds..	52,408,217	2,667,578	47,738,703	2,291,458
Copper.....do....	42,990,488	8,288,565	40,832,720	8,166,544
Coal.....tons..	1,517,803	4,551,909	1,800,067	6,300,235
Coke.....do....	199,227	996,135	222,913	1,337,478
Other minerals.....		1,000,000		1,200,000
Total.....		24,980,546		25,882,560

INCREASE IN COAL, DECREASE IN OTHER PRODUCTS.

The value of the total products of the mines of the province up to the end of 1907 is given as \$299,526,282. Coal makes the largest showing, viz, a total of \$86,972,551, followed by placer gold at \$69,549,103 and by lode gold at \$45,070,717.

For the calendar year 1907 there was a decrease in placer gold of \$120,400 and in lode gold of \$575,619; total decrease in gold production \$696,019, while in silver production the decrease was \$193,495. In lead there was a decrease in output of 4,669,514 pounds. The copper mines were run only nine months of the last year, owing partly to shortage of coke, but later in consequence of financial depression, with the result that the total output for the year was 40,832,720 pounds, or 2,157,768 pounds less than in 1906.

The gross production of coal in 1907 in the province was 2,219,608 tons, of 2,240 pounds each, of which 44,760 tons were added to stock, leaving a total consumption of 2,174,848 tons of coal. Of this amount 916,262 tons were sold for consumption in Canada, 651,076 tons for export to the United States, and 22,038 for export to other countries, making for 1907 the total coal sales 1,589,376 tons; of the

balance of the coal, 419,541 tons were used in making coke and 165,931 tons under colliery boilers, etc.

No iron ore is mined in the province; the only attempt thereat, at Quasino Sound, Vancouver Island, has been found unprofitable and abandoned. The mining of zinc ore is also practically at a standstill.

ELECTRICAL REDUCTION OF ORES.

LOAN GRANTED BY PROVINCE FOR ESTABLISHMENT OF A PLANT.

Consul L. Edwin Dudley, of Vancouver, states that in consequence of his report regarding the establishment of a plant at Nelson, British Columbia, for the electrical reduction of ores containing a considerable quantity of zinc he has received a number of inquiries. He now adds the following:

I understand that a loan of \$10,000 has been granted by the provincial government to assist in the establishment of the new plant, which will probably soon be in working order. A pamphlet containing an article published in the Journal of the Canadian Mining Institute treating with the smelting of zinc ore is forwarded. [This will be loaned to interested persons making application to the Bureau of Manufactures.]

CHINA.

SHANTUNG PROVINCE GIVES PROMISE OF GREAT MINERAL RICHNESS.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information regarding mining in the Chinese province of Shantung:

The province has valuable mineral resources, of which only a few surface deposits have been utilized by the Chinese.

The further development of the mica beds near Tschoutschong has been retarded. It appears probable that the mica beds continue on a larger scale below the surface, and the products which have been prepared at the mines and offered for sale in Germany have been bought up at good prices.

It is stated that copper has also been found in the Shantung province, as well as gypsum, and that large quantities of clay exist which is being made into bricks and tiles, and that sandstone and building stone are found in great abundance.

IRON-ORE DEPOSITS.

Near the railway station of Tsinglingtschen there is an iron-ore deposit on the Tiehshan (Iron Mountain) of no small proportions, the commercial utility of which has been determined by investigation and by scientific prospecting during recent years. Analyses have shown that the deposit consists of magnetic iron ore and red iron ore, which contains up to 65 per cent of metal. This result has been confirmed by further inspection of samples taken from drillings, drifts, and shafts of the prospecting works of the German Mining Society. The deposit is said to be about 2 kilometers (1.242 miles) long, 35 meters (38 yards) deep, and has a rather heavy dip. There is said to be sufficient ore in sight to warrant work on a large scale. Further investigation has proved that a vein exists at Sy-bau Mountain, where prospecting has been carried on, near the railway station of Tschangtien.

Considering the high percentage of iron, the other elements not being of a nature to make reduction difficult, and the fact that a plentiful supply of limestone is near at hand, it appears as though the prospects for operating this field were favorable. This work would meet a growing demand among the agricultural population of the district, who at present secure their needed supply of iron by importing scrap iron and old horseshoes from abroad, and pigs from the province of Shansi.

The Shantung Mining Company has under consideration the construction of reduction works, and it is understood that the matter will be taken up as soon as the development of the company's Poshan coal mines guarantee a sufficient supply of coke.

Owing to the fact that the province is the most densely populated in China, having an area of 55,984 square miles and 38,247,900 inhabitants, or 683 to the square mile, labor is available at a low cost, although the tendency appears to be to charge higher prices for working in German mines than is expected in the Chinese mines, and for other work in the province.

CHILE.

INCREASING COAL CONSUMPTION—OPENING UP NEW LOCAL DEPOSITS.

Consul Alfred A. Winslow, of Valparaiso, reports that the consumption of coal in Chile has increased very rapidly in the last five years, as indicated by the following table, just published by the Sociedad Nacional de Minera, which shows the quantity of foreign and domestic coal consumed in that country:

Year.	Foreign.	Domestic.
	<i>Metric tons.</i>	<i>Metric tons.</i>
1903	797,634	51,097
1904	822,471	61,624
1905	1,179,058	673,927
1906	1,019,834	932,488
1907	1,489,154	832,612

From these statistics it is clear that the industries of Chile are making great strides, as it shows a gain in five years of nearly 300 per cent in the quantity of coal consumed, which is really a fair index of the progress of the country and its commerce.

A strong effort is being made to open up the very extensive coal fields of the Province of Arauco, south of Coronel. A much better grade of coal is found in the interior of that Province than has ever been mined in Chile for commercial purposes. It is said to be very good coking coal and suitable for use in the Chilean navy.

The state railways of Chile consume annually from 350,000 to 400,000 tons of coal, of which about one-half is imported.

ITALY.

INCREASED EXPORTATIONS OF SULPHUR AND STOCKS ON HAND.

In transmitting the following statement showing the exports of Sicilian sulphur to the principal countries during the nine months ended March 31, 1907 and 1908, Consul Arthur S. Cheney, of Messina,

reports that the amount on hand on May 4, 1908—about 600,000 tons—will tend rather to increase than decrease:

Whither exported.	1907.	1908.	Whither exported.	1907.	1908.
	<i>Long tons.</i>	<i>Long tons.</i>		<i>Long tons.</i>	<i>Long tons.</i>
United States.....	12,894	12,786	Russia.....	13,236	11,859
France.....	54,808	59,744	Belgium.....	11,957	10,654
Italy.....	37,166	35,501	Portugal.....	7,337	8,236
Germany.....	28,696	28,314	Holland.....	6,690	6,894
Austria-Hungary.....	19,074	18,991	South Africa.....	6,025	6,236
Greece, Turkey, and the Balkan States.....	17,870	23,651	North Africa.....	3,562	2,739
United Kingdom.....	16,180	13,114	All other countries.....	10,200	15,098
Sweden and Norway.....	13,891	18,080	Total.....	257,605	271,921

[Owing to the development of the Louisiana sulphur deposits the imports of sulphur into the United States have been decreasing. The receipts in 1905 were 83,201 tons, worth \$1,522,005; in 1906, 72,404 tons, worth \$1,282,873; and in 1907, 20,299 tons, worth \$356,739. American exports of sulphur have, in the meantime, increased from nothing in 1905 to 14,437 tons, valued at \$289,474, in 1906, and to 35,925 tons, valued at \$734,749, in 1907.—B. of M.]

FEDERATED MALAY STATES.

INCREASE SHOWN THIS YEAR IN THE OUTPUT OF TIN.

Vice-Consul-General George E. Chamberlin, of Singapore, states that the following table shows the output of tin from the four states of the Federated Malay States during the first three months of 1908, in comparison with the same period in 1907:

Provinces.	1908.	1907.
	<i>Tons.</i>	<i>Tons.</i>
Perak.....	7,183	5,875
Selangor.....	4,523	3,836
Negri Sembilan.....	1,019	1,045
Pahang.....	502	460
Total.....	13,227	11,216

The increase in the 1908 period was 2,011 tons of 2,240 pounds each. While the export of tin and tin ore has increased 16 per cent, the duty collected has decreased by \$358,656, owing to the low price of tin.

UNITED KINGDOM.

GOVERNMENT STATISTICS CONCERNING MINES AND QUARRIES.

Consul-General Robert J. Wynne, of London, reports that the following statistics for 1907 concerning the mines and quarries of the United Kingdom are contained in a Board of Trade bluebook recently issued:

Persons employed in coal mines.....	940,618	Number of coal mines.....	3,327
Persons employed in met- alliferous mines.....	31,602	Number of metalliferous mines.....	748
Persons employed in quar- ries.....	87,814	Output of coal ---- (tons)	267,830,962
		Output of iron ore. (tons)	15,731,604
		Lives lost in coal mines...	1,245

The coal output exceeded by 16,763,334 tons the output of the previous year.

PETROLEUM INDUSTRY.**MEXICO.****HOME RESOURCES WILL SUPPLY THE HOME OIL DEMANDS.**

In stating that Mexico is destined to become a prominent factor as a producer of refined petroleum, Consul W. W. Canada, of Veracruz, writes as follows concerning present development:

Oil-producing lands have been discovered in the State of Veracruz, near the Isthmus of Tehuantepec, and the flow of oil in the wells has been of such a quantity and quality that an English company has erected a large refining plant at Minatitlan, which is not only built on the most modern lines, but as regards capacity is the largest by far in this Republic. The plant will be in operation within a short time.

Illuminating, lubricating, and fuel oils are to be manufactured. The company has erected sixteen 1,000-barrel crude stills, seven 500-barrel lubricating-oil stills, seventeen 200-barrel tar stills, five 1,000-barrel steam stills, three 1,000-barrel agitators, eight 500-barrel agitators, ten 95-foot storage tanks, each of a capacity of 47,000 barrels, and in addition 26 storage tanks that range in capacity from 2,000 to 5,000 barrels each. The company owns the wells. A certain part of the production is to be fuel oil, and as the company also operates the Tehuantepec National Railway the latter's engines will be supplied with fuel oil. Large storage tanks are being erected at Veracruz and other places to supply the several railways in this part of the country. When this plant is in operation it is expected that the Mexican market for foreign petroleum will be a thing of the past.

OPERATIONS OF AN AMERICAN COMPANY.

An oil company with headquarters at St. Louis, Mo., with refineries at Mexico City, Veracruz, and at Tampico, has had for many years practically a monopoly of the trade in Mexico. The company carries its crude oil from Philadelphia to Veracruz and Tampico by tank steamers, from which it is pumped direct into the company's storage tanks.

The Veracruz refinery has a capacity of about 350,000 gallons of crude per month; the one at Tampico is much larger and has at present a capacity of 1,000,000 gallons but is being enlarged, and when this has been accomplished will have a capacity four times as great as at present. The Mexico City plant has been closed, and the material will be utilized in part for the increased capacity at Tampico. There is another smaller plant operated by a stock company at Veracruz, but its output does not materially influence the market.

TARIFF RATES PROTECT REFINING.

The business of refining petroleum has been enjoying special privileges in this that the tariff has been a barrier to American refiners. The import duty on crude mineral oil is fixed at \$3.30 Mexican (\$1.64 United States currency) per 100 kilos (220 pounds); the duty on refined, however, is \$19.80 Mexican (\$9.86) per 100 kilos, legal weight, and on lubricating oils \$13.20 Mexican (\$6.57) per 100 kilos, gross weight. Legal weight is the weight of the article including that of its wrappings, cans, etc., but not the outside packing case. The costs of

importation are slightly in excess of the figures given to cover harbor and other improvements by which the municipality benefits.

Illuminating oils are now sold at Veracruz at the following prices: Standard white, 110 test, \$6.25 Mexican (\$3.11) per case of two 5-gallon cans, and is sold in bulk from tank wagons at 14½ centavos Mexican per liter, the equivalent of about 27 cents United States currency per gallon. Naphthas bring from \$7.95 to \$8.95 Mexican (\$3.96 to \$4.46) per case of two 5-gallon cans.

The packages used are cases, galvanized-iron barrels, and 100-gallon iron drums. Wooden barrels are used to some extent on foreign lubricating oils. Nearly all illuminating oils that have been imported were packed in cases containing two 5-gallon cans each.

BRITISH INDIA.

EXTENSIVE DEPOSITS IN THE COUNTRY AS YET UNTOUCHED.

Consul-General William H. Michael, in writing from Calcutta that the production of petroleum in India, outside of Burma, has not attracted much attention in the commercial world, gives the following general information about these resources:

India proper has her oil fields, and when they have been properly developed will without doubt cut a considerable figure in the world's supply of oil produced from crude petroleum. At Kafir Kot this earth oil exudes from brown bituminous sandstone, and is found floating on the surface of springs. It is also found at Ratta Hotar hills, at Jobba, of Karsan, west of Chakratta, 9 miles east of Kalabagh; at Dhadur, 3 miles west of Kabbakhi, in the salt range; at Narsinghpur, also in the salt range; at Jabba, near Nurpur; in the Algod Ravine at Kafir Kot on the Indus River, and in other places. The Bazar of Dehra Ismail Khan, on the hills of the Indus, had it for sale as a medicine long before petroleum was discovered in America, or had been developed in Burma. Petroleum was found many years ago in large quantity at a place called Makoom, not many miles from Jeypur, on the Dehing River. But the leads have remained comparatively undeveloped, and it is as yet unknown to what extent petroleum exists in India.

In Assam the wells near Digboi are the most promising, a company with \$1,550,000 capital operating a large refinery there. There are twenty-two wells near Digboi, but five or six have been abandoned, as they were not sunk to a sufficient depth. However, while the deepest well goes down 1,865 feet, it does not yield as much oil as some that are little more than half as deep. The yearly outturn is now about 63 tons of candles, 573 tons of paraffin wax, and 1,200,000 gallons of kerosene oil. Nearly all the oil is sold locally in Assam, or in the neighboring districts of Bengal.

The government statistics do not show the amount of crude oil, refined oil, or paraffin wax derived from the Indian wells; but, whatever it may be, there is none of it exported from the country unless it be some of the wax. Burma (really a province of India) is the producer and exporter of kerosene oil and the by-products, such as paraffin. In 1906-7 she produced 137,654,000 gallons and exported in that year 55,796,000 gallons, all of it going to Indian ports. The

exports of paraffin wax amounted to 60,209 hundredweight, valued at \$414,330. The candles made of petroleum products amounted to 5,095,000 pounds, valued at \$473,330.

The petroleum deposits of India, including Burma, have scarcely been disturbed, and the magnitude of the possible trade of India in the products of petroleum can hardly be estimated.

RICH BURMA OIL FIELD.

A HALF-YEAR'S PROFITS OF A BIG PAYING PROPERTY.

Consul-General Michael reports as follows on the operation of the Rangoon (Burma) Oil Company for the six months ended March 31, 1908:

A net profit is shown of \$206,750, after deducting \$16,000 to the account of depreciation, \$5,000 due to the late managing agents, and \$730 for securing leases for territory. The shareholders will get a dividend of 50 per cent, and a balance of \$47,384 will be carried forward to next account. The property controlled by the company is just at the threshold of development and has a contract covering its output for ten years at a price that will pay a handsome profit. The paid-up capital is \$318,700, and the reserve amounts to over \$100,000.

Burma-made paraffin wax candles are working their way into the commerce of Persia, against the Russian, Belgium, and the Netherlands product, the imports of this commodity having doubled in the last year. The candle is 7½ to 8 inches in length, of the usual diameter. Six candles are neatly put up in a packet, and 30 packets in a case.

FORMOSA.

PROGRESS OF THE INDUSTRY ON THE ISLAND.

Consul Julean H. Arnold, writing from Tamsui, gives details from reports by the Formosan Government experts on the progress made in boring for petroleum in the northern part of that island. One company has expended \$150,000 on developments and has wells now producing 1,200 to 1,500 gallons daily. The transportation costs being high, the company plans to construct a refinery at Bioritsu station, to which point it may be possible to pipe the products of its wells. The particulars of the company's operations, as well as the plans of another prospecting concern, are contained in the consul's report, which may be seen at the Bureau of Manufactures.

ROUMANIA.

INCREASING PRODUCTION IN THE CONSTANZA DISTRICT.

Consul-General Norman Hutchinson, of Bucharest, reports that according to a recent article in a Roumanian publication the petroleum reservoirs of the district of Constanza during 1907 took care of 460,900 tons of petroleum. The quantity exported by the tank steamships represented a value of \$65,000. Important improvements are in progress at the petroleum station of Constanza. It is estimated that within a short time the port of Constanza will be able to export 1,000,000 tons of petroleum per annum.

RESCUE WORK IN MINES.

EUROPEAN EFFORTS TO SAVE LIVES IN UNDERGROUND INDUSTRY.

Consul Maxwell Blake, of Dunfermline, reviews the progress being made for safer mining methods in Great Britain, as well as the Continent, as follows:

Since the colliery explosions at Courrieres and the more recent disasters in the United States and elsewhere, a public demand has been awakened for some kind of organized rescue work in connection with mines, which is now attracting the cooperative aid of collier owners and expert engineers throughout England and Scotland.

In Austria and France the provision of rescue apparatus in mines is made compulsory. In Germany it is optional, but has been voluntarily adopted. In Russia where over 50 men are employed in one mine it is provided that "every colliery must have a rescue corps trained to work in irrespirable gases;" that "the number of men in each corps must be equivalent to 4 per cent of those engaged in the largest pit or shaft work," and "that the number of completely equipped sets of breathing apparatus at each colliery must not be less than three."

The British royal commission on accidents in mines, which sat last year, reported upon the subject of rescue apparatus as follows:

We have considered whether it would be desirable to make provision of any rescue appliances compulsory, and we have come to the conclusion that sufficient advance has not been made in this country to justify such a course at present.

TYPES OF APPARATUS.

The breathing appliances referred to have been too frequently described of late in mining and scientific journals to render complete description here necessary. The pneumatophore is worn about the chest and is said to be trustworthy for about two hours. In this appliance the expired air passes through chemical compartments by which it is regenerated and breathed over again. It is ill adapted for laborious exertion, however, the helmet appliance being preferable under such circumstances. This apparatus is operated on the same principle as the diving helmet, the air being supplied through flexible tubes by means of pumps. The helmet likewise is said to possess impractical features, as its use is unsafe for any distance over 200 yards from fresh air. In addition to these there is the "Weg," the "Fleuss," the "Draeger," and the "Shamrock," all differing more in detail than in principle.

The desired requirements for an effective rescue apparatus may be summarized as follows: Lightness of weight, a sufficiently dependable supply of oxygen, an effective chemical absorbent of CO₂, reliable air-tightness of construction, and convenience of structure. It is not claimed that so far there is any one appliance on the market combining all of these features.

RESCUE ORGANIZATION—MINING COLLEGE.

What is of quite as much importance to the success of rescue work as the breathing appliance is the trained rescue corps. In both England and Scotland several rescue stations have been organized

in connection with experimental galleries devised for the purpose of training colliers in the methods of effective rescue work in the event of explosions, pit fires, and all other underground accidents. A number of men are exclusively identified with each central station, and by numerical rotation instructions are given to the surrounding colliers, all of whom in times of emergency thus become available for intelligent rescue assistance.

The colliers lend themselves to these exercises with much willingness and considerable rivalry exists among them for the honors at the public exhibitions which are frequently arranged.

There is also now under way in this district the construction of a Mining College, as the desirability of offering the working miner opportunities for a more intelligent knowledge of his work has long been felt of economic importance. In connection with the Mining College, there will also be a convalescent home, and a hospital corps devoted to ambulance work.

RECOMMENDATIONS OF A COMMISSION.

Recommendations offered the Clackmannan Coal Owners' Association by their commission upon rescue stations embrace both exhaustive inquiry and personal investigation, and contain suggestions of practical mining engineers and experts, and should be of much value to all those interested in this important subject. It is advised

that a central station be equipped with a sufficient number of rescue apparatus, kept constantly ready for use, as well as at least five appliances at each separate colliery within the district of the central station; that telephonic communications be directly established with these outlying collieries; that at least 30 men in each colliery, all of whom thoroughly know the mine, be regularly instructed in the use of the various appliances provided; that the central station should be in charge of only expert operators.

The cost of the station, exclusive of apparatus, is estimated at \$6,000 and an additional \$1,500 per annum for up-keep. As men generally live for a considerable time after an explosion, the use of the breathing apparatus may aid in restoring ventilation, and thereby be the means of saving those who would otherwise become the victims of after-damp.

As the various rescue apparatus are undergoing very rapid improvement, it is to be hoped that the day is not far distant when mining will be carried on with comparative safety of life.

BAUXITE AND ALUMINUM.

GROWTH IN PRODUCTION OF RAW MATERIAL AND FINISHED ARTICLE.

Much interest having been aroused by the recent consular reports from France on the trade in bauxite the following information from the "Mineral resources of the United States," by W. C. Phalen, will be of interest:

The production of bauxite in the United States in 1907 amounted to 97,776 long tons, valued at \$480,330. This is an increase of 22,444 tons, or almost 30 per cent, over the production of the year before, and an increase in value of \$112,019, or a little over 30 per cent. The average price of the material at the mines was about \$4.91 per long ton, an advance of but 2 cents over the returns for 1906.

In order to show the annual consumption of bauxite and its value in the United States during the last five years, the following table has been compiled,

which includes the annual production, imports, and consumption, together with the value of each, respectively:

	Production.		Imports.		Consumption.	
	Long tons.	Value.	Long tons.	Value.	Long tons.	Value.
1903	48,067	\$171,306	14,889	\$49,684	62,976	\$220,990
1904	47,661	235,704	15,374	49,257	63,035	285,961
1905	48,129	240,292	11,726	46,517	59,855	286,809
1906	75,332	368,311	17,809	63,221	93,141	431,532
1907	97,776	480,330	25,066	98,208	122,842	573,538

WORLD'S PRODUCTION.

The following table shows the world's production of bauxite in 1904, 1905, and 1906:

	1904.		1905.		1906.	
	Long tons.	Value.	Long tons.	Value.	Long tons.	Value.
United States	47,661	\$235,704	48,129	\$240,292	75,332	\$368,311
France	74,449	131,229	101,878	205,738	115,926	229,952
United Kingdom	8,700	8,340	7,300	8,880	6,654	13,274
Total	130,810	375,273	156,807	454,910	197,912	611,537

The chief uses of bauxite are (1) as raw material in the production of metallic aluminum. This is by far the most important use of the material. A large part of the entire output of the State of Arkansas has been devoted to this purpose, and the figures of production from this State have shown remarkable growth during the past few years.

(2) In the manufacture of aluminum salts. A large part of the Georgia-Alabama product is used for this purpose, owing to its relative freedom from oxide of iron.

(3) In the manufacture of artificial abrasives (alundum).

(4) In the manufacture of bauxite brick. This last use in refractory brick is of recent date. The bricks are of chief value in resisting the corrosive action of molten metal at high temperatures, and hence are applied in basic open-hearth steel furnaces, in furnaces for refining lead, in copper reverberatory furnaces, and in the linings of rotary Portland cement kilns.

GROWTH OF ALUMINUM INDUSTRY.

The magnitude of the aluminum industry is shown by the following table, which gives the production in the United States since the beginning of the industry in 1883:

Year.	Pounds.	Year.	Pounds.	Year.	Pounds.
1883.....	83	1892.....	259,885	1901.....	7,150,000
1884.....	150	1893.....	333,629	1902.....	7,300,000
1885.....	283	1894.....	550,000	1903.....	7,500,000
1886.....	3,000	1895.....	920,000	1904.....	a 8,600,000
1887.....	18,000	1896.....	1,300,000	1905.....	a 11,347,000
1888.....	19,000	1897.....	4,000,000	1906.....	a 14,910,000
1889.....	47,468	1898.....	5,200,000	1907.....	a 17,211,000
1890.....	61,281	1899.....	6,500,000		
1891.....	150,000	1900.....	7,160,000	Total	100,630,779

* Consumption.

The value of the exports of aluminum and manufactures of aluminum of domestic production for the last four years has been as follows: 1907, \$304,935; 1906, \$364,251; 1905, \$200,777; 1904, \$166,876.

APPLIANCES.

MODERN MECHANICAL DEVICES.

GREECE.

AMERICAN CINEMATOGRAPH PICTURES WOULD EXCITE INTEREST.

The following information concerning cinematographs in Greece and the interest which would be created in that Kingdom by representative American views is furnished by Consul-General George Horton, of Athens:

There are no motion-picture manufacturers in Greece, all film and apparatus being imported. An import duty is paid on the ribbon of 4.35 drachmas (drachma=\$0.193) the oke (2.8 pounds), or, in the case of more expensive films, 20 per cent ad valorem. This is a duty of about 30 cents per pound. Operators of motion pictures also pay the regular theater tax, 10 per cent of the gross earnings. From 7,000 to 10,000 meters (7,630 to 10,900 yards) of film are yearly imported, costing from 80 centimes to 2 francs the meter (15.4 to 38.6 cents per 1.09 yards).

A French firm has an agency in Athens, at the Old Tsocha Theater, where matinees and evening performances are given, and where films can be bought. As this agent has a monopoly, he charges what are regarded, by the theatrical managers and others who apply to him, as very high prices.

CLASSES OF VIEWS THAT WOULD PROVE POPULAR.

There are two principal Greek exhibitors of moving pictures, who travel in Greece, Turkey, Crete, etc. In Athens the principal exhibitor [address obtainable from the Bureau of Manufactures] is the proprietor of a large summer theater. According to this gentleman and other experts, American machinery and films would be welcomed here providing the views were new and striking and the machinery of good quality. A year ago or more a firm advertised "American Cinematograph," and drew large crowds on account of the supposed superior quality of the views. As near as I could ascertain this was not an American cinematograph at all, but the use of the name shows that it is considered a drawing card here, and that something extra good in this line is expected from Americans.

Last year an Italian did good business here for months, showing a large variety of scenes, romantic and comical. The views were really good, clear, and steady; 300 drachmas (\$54.54) was paid nightly for the theater, and the receipts were from 1,500 to 2,000 drachmas (\$270.70 to \$363.60).

The theater proprietor suggests that scenic American views, such as Niagara Falls, Yellowstone Park, hunting scenes, etc., would be popular here. As nearly every Greek has one relative or more in the

United States, views of the different cities, of the great industries, and of the various picturesque regions would also excite great interest throughout this country.

MARKET FOR TYPEWRITERS.

AN AMERICAN MACHINE WELL ADAPTED TO LEVANT TRADE.

Consul-General Horton also reports that an agent at the Piræus is doing a fair business in an American typewriter of the "type-wheel" or "shuttle" variety, to which he adds:

This machine is peculiarly adapted to business requirements here, for the reason that, by an adjustment easily managed, it can be made to write Greek, French, German, English, or any of the languages required in a polygot office. The typewriter business is practically in its infancy in Greece, but the machine in question seems to be making good headway. I saw two in one office, and they were giving excellent satisfaction. Of course, a really good machine that could be sold at a cheaper price would go better, but an inferior article, on the other hand, would not sell at all. Not long ago an importer brought in fifteen typewriters from England which were to be sold at about \$20 each. Despite the cheap price, he has not been able to dispose of a single one.

The American machine referred to is the one principally in use for writing Greek. I have talked with one or two firms about a possible opening for other American typewriters, and they say that the only way to introduce a new machine would be to send one or two samples on consignment to responsible parties.

CHINA.

GRAMOPHONES AND TALKING MACHINES AMONG THE CHINESE.

The following information concerning the increasing use in China of musical instruments and goods, and what American manufacturers must do to hold and increase their trade therein, is furnished by Vice-Consul Ernest Vollmer, of Tsingtau:

With the steady increase in the European population of the Far East, a growing demand for all sorts of musical goods is developing, while gramophones and talking machines are finding an ever-extending market among the Chinese. American trade, on the whole, seems to be doing better in the latter line, owing mainly to the excellency of the machines sold and good representation.

One firm in Shanghai which has a general agency for a leading American gramophone is selling large quantities of machines and disks. They establish agencies in all ports, sell directly to the natives, and supply them with Chinese and other musical records, all of which are made in the United States.

Aside from the articles already mentioned this firm sells American banjos, organs, and sheet music in large numbers and quantities. The firm manufactures 15 pianos monthly, for which raw material is all imported, and it distributes large quantities of German harmonicas, the latter being so cheap as to defy competition. Furthermore, American pianolas are being dealt in to a large extent, but this trade will soon suffer, as the firm has just started to reproduce them. The first specimen has just been finished at the Shanghai

factory and has proved a success. American exporters will have to watch the market closely to keep a trade in their hands in which a satisfactory start has been made.

Germany seems to be the main other nation contending for the market in gramophones. They manufacture cheaper goods and get some orders, a firm in Tsingtau doing a good business in these machines.

UNITED KINGDOM.

A NEW CATTLE-KILLING DEVICE BEING INTRODUCED IN SCOTLAND.

Consul Maxwell Blake reports that in spite of much initial opposition on the part of Scotch cattle killers of the poleax style, a new device is being introduced in the Dunfermline slaughterhouse as a humane substitute for the old style of killing. The consul describes the new instrument as follows:

The weapon is about a foot in length. The barrel is rifled and the muzzle shaped like the mouth of a bell and angled in order to adapt itself to the slope of a bullock's head. By unscrewing the opposite end from the muzzle the cartridge may be inserted. The breech piece having been readjusted, there is a steel guard protecting the hammer, which sets off the bullet. This guard is not displaced until the weapon is about to be used. When the bullock has been firmly drawn up, the operator places the bell end well up on the forehead, and with a sharp tap of a mallet all is over, the beast generally falling down without a struggle. If the bullet has been properly placed, its path should be along the spinal cord, completely severing it. If the instrument has not been well placed, death is a little longer in ensuing, but in any case there is no pain to the animal. Care in the use of the weapon is all that is required, as it is not a thing which can be handled recklessly with impunity.

[A prospectus descriptive of the instrument described is on file in the Bureau of Manufactures.]

ITALY.

POSSIBLE FIELD FOR AMERICAN ELECTRICAL COW MILKERS.

Consul James E. Dunning, of Milan, forwards the following report, made by Clerk Siersdorfer of the consulate, on an opportunity for the American manufacturer to place an electrical cow milker in Italy:

An electrical cow-milking machine is at present sought in Italy, especially in Lombardy, the chief agricultural center of the Kingdom. Nothing of the kind is at present in the Italian market and now seems to be the right time for the American manufacturer to exploit his article. A similar apparatus is offered by foreign agents, but Italian importers wish to get directly in touch with the manufacturer. The constant labor movements in Italy make a machine of this kind of the greatest need. [A list of importers of agricultural machinery in Italy likely to be interested in the article mentioned may be secured from the Bureau of Manufactures.] Electrical cow-milking machines weighing more than 2,204 pounds each are dutiable at \$3.09 per 220 pounds; those weighing 2,204 pounds or less are dutiable at \$4.82 per 220 pounds.

MACHINERY AND TOOLS.

BRITISH INDIA.

SCHEME TO CULTIVATE A MODEL FARM WITH AMERICAN MACHINERY.

Consul-General William H. Michael, of Calcutta, reports that for two years he has been endeavoring to induce American manufacturers to open a model farm in British India to be exploited with American machinery, to which he now adds:

Attention was incidentally called to some classes of small machinery and implements of American make. The idea has been well received in India, my former reports on this subject having been copied by London newspapers, and many communications have been received from different parts of the Empire commending the scheme, the last communication being as follows:

I would like to make an offer which may be profitable for this country as well as yours. If the American manufacturers of agricultural machinery, with whom you had some correspondence on the subject of opening an American model farm, will furnish enough machinery and implements required for farming 200 acres of land we will raise a like amount here for the acquirement of land and cost of cultivation. Labor and produce are comparatively cheap here, and we feel sure the project would prove successful, and lead to the introduction of modern agricultural machinery and the adoption of modern methods in agriculture in India.

This offer, especially the spirit of it, ought to arrest the attention of some American agricultural implement manufacturer and lead to business.

AMERICANS FAIL TO COMPETE FOR NEEDED EQUIPMENTS.

Consul-General Michael furthermore calls the attention of American machinery builders to the opportunities they are losing in British India, as follows:

A new \$166,000 sugar refinery is being erected at Bombay and is to begin operations by the end of October. The necessary refining plant has been ordered from Scotland through a Bombay and Calcutta firm. While the Americans manufacture the best and most economical machinery for refining sugar, yet having no active agents on the spot British manufacturers get the contracts for supplying machinery.

This same firm of agents got the contract for putting in a cotton-seed oil mill here at Calcutta in spite of efforts to induce the projectors to consider bids from American manufacturers. I was told that as there were no agents of American manufacturers on hand to talk to, it would take too long to accomplish anything by correspondence. There will be more opportunities like these and manufacturers of the United States should have agents on the spot.

The agricultural department of Siam has organized rice exhibitions in the different towns of the Kingdom, to give greater impetus to rice culture, the exchange of selected seed, and the introduction of improved machinery and implements for the planting, cultivating, and treatment of rice, and calls the attention of the manufacturers of such machinery in the United States to the possible trade opportunity which this new movement in Siam might offer, if it were considered of importance enough to send out an agent to overlook the field.

GERMANY.**MARKET FOR AMERICAN IMPLEMENTS IN SAXONY.**

Consul Carl Bailey Hurst, of Plauen, furnishes the following information concerning the opportunities which Saxony offers for the introduction of children's garden tools:

Sets of garden tools for children are found infrequently in Saxony. Those on the local market are not so attractive or so well made as similar articles in the United States. Much attention is given to gardening in this district, not only on a large scale, but also to the cultivation of small plots of ground of 800 square feet and less. The neighborhood is densely populated and intensive farming is a necessity. The long days of summer in this latitude make it possible for operatives and others confined during the day in the factories to cultivate small gardens after working hours.

Unused building lots and other unproductive tracts in the suburbs of the large towns are laid out in miniature sections and rented by philanthropic organizations at a nominal figure. Thither repair whole families after the factories are closed, and work out of doors during the twilight. Regular garden tools are plentiful, but the neat sets of tools that are a pleasure to many American children are rarely seen here. There is an excellent opportunity for doing a considerable business in such implements if the proper measures are taken to show these special manufactures, to the end that people may become acquainted with high-grade goods in this line. It would not be long before the durability and other practical qualities of the tools are recognized.

CHINA.**OPENING FOR AMERICAN MINING AND ROAD MECHANISMS.**

In connection with a newspaper clipping concerning the projected Tai-Tsao Railway, to run from the coal mines, 8 miles north of Yih sien, to Taiehrchwang, the leading port of South Shantung, on the Grand Canal, Deputy Consul-General Alvin W. Gilbert, of Chefoo, writes:

I have been informed that there is a chance to sell machinery to the mine owners. The few engines and boilers now in use are so old as to be almost unfit for use. Stone is abundant, and there is an opportunity to sell American stonecrushers to the natives who will prepare the ballast for the railroad and for macadamizing some of the roads. Outside of the port cities not a foot of macadamized road—the kind that seems to be adopted wherever modern roads have been made—is to be found. Conveyances for the most part are litter and horseback, while in the western part carts are used. Wheelbarrows are extensively used in transporting goods.

South of Tsining-chow the Grand Canal needs dredging and modern locks installed if this ancient waterway is to continue in use. During the past winter the distance between Taiehrchwang and Hangchwang (20 miles), having eight old-style locks, had in many places a depth of but 6 inches of water. This condition means heavy freight bills and a decrease in all lines of business. All the supplies for the Tai-Tsao Railway must come over this Grand Canal route from Chinkiang, in Kiang Su Province.

FRANCE.

VARIOUS IMPROVED TOOLS WOULD PROBABLY SELL WELL.

Consul D. I. Murphy, writing from Bordeaux concerning the introduction of American handsaws and screw-drivers in that section of France, says:

American handsaws are not known here, the old fashioned "buck" variety being exclusively used. It seems as though American manufacturers might successfully introduce their saws in this region. Other American tools, the quick-acting screw-driver, for instance, might also find a ready market. At the American pavilion at the Maritime Exposition, which was held at Bordeaux from May 1 to November 10, 1907, an American handsaw and a quick-acting screw-driver, brought over by the packer of the Smithsonian Institution, were looked upon with admiration and wonder by the French workmen.

BRITISH SOUTH AFRICA.

COMPETITION FOR STOPE DRILLS IN THE TRANSVAAL.

Vice-Consul-General George Loomis Foster, of Cape Town, transmits a clipping from the Cape of Good Hope Government Gazette with reference to a stope drill competition to be held in the Transvaal, commencing early in 1909. He adds that, as the competition is looked upon as of very great importance and the prizes are liberal, American manufacturers of drills should be deeply interested. [The clipping will be loaned to interested firms who address the Bureau of Manufactures.]

BRITISH ILLUSTRATION MAKING.

PHOTOENGRAVING AND ELECTROTYPING BUSINESS IN BRISTOL.

Consul J. Perry Worden, of Bristol, advises that American dealers in machinery and supplies for photoengravers and electrotypers may find an opportunity for increasing their trade in that part of England, concerning which he writes:

In this city of 360,000 people, a pushing seaport, claiming some of the best daily newspapers in the United Kingdom, there is but one photoengraving establishment and but one electrotyping plant in the entire district. Lithographers and die makers, for the most part, meet the demands of Bristol merchants and the stationery trade, and newspaper editors have but partially broken away from tradition, only one newspaper running three or four half-tones in a Saturday supplement, and another newspaper occasionally using an outline drawing; while newspaper and job printers have objected to the laborious making-ready of process blocks.

Nevertheless, the illustrated periodical, both weekly and daily, is increasing in number and popularity in England. Merchants and printers generally are using half tones more and more, and duplicating their engravings in endurable electrotpe. Apparently there is need only of special effort on the part of those thoroughly familiar with details of the two trades to convince printers and printers'

patrons here of the advantages, at least for certain kinds of work, of the half-tone engraving over the lithograph, particularly, perhaps, for work wanted in a hurry, and to increase somewhat the establishment in Bristol for process engraving and electrotyping. Unworked as the field certainly is, it is less to be expected that an entirely new and independent establishment would succeed here, especially at first, than that printers and newspaper publishers, already well established, may be induced to equip themselves for photoengraving at least.

SENDING TO LONDON—AMERICAN SCREENS POPULAR.

Not one of the several extensive newspaper establishments now make their own blocks or copy by wet plates, and some of the largest printers, not caring to expose their forms to the critical gaze of competitors, do not patronize the one electrotyping establishment in Bristol, but send to London for electrotyping, thereby suffering loss of time and sustaining considerable additional expense.

The fact that but one printing house in Bristol, with some four or five copying cameras of the conventional half-tone engravers' type, and gathering its trade not from Bristol and vicinity only, but from Wales and even northern England and Scotland, holds at present much of the field here, reveals an opportunity for general competition.

The additional fact that American apparatus is most generally used by photoengravers in Great Britain, and, perhaps, also by electrotypers, should give whatever assurance is required to American manufacturers and dealers to direct their attention especially to the southwest of England. American screens are held to be the best in the world, and although Germans, with the advantage of a reputation for early experiments in screen making, offer screens at much lower figures, English photographers are said to prefer the American product, even at a higher price, believing that by the better American ruling they secure more even tones of color.

CAMERAS AND HALF-TONE WORK.

American cameras also are much used by English half-tone engravers, notwithstanding the preference of the English photographer in general for the average English-made folding camera for all-round work, and lenses alone of the important apparatus used by process engravers seem to be supplied chiefly by English and German makers. Even with the lens, however, there is a prospect of some additional American trade, for it is well known that a certain type of German lens is often preferred, and that this type is also made in the United States.

Viewing the business of the half-tone engraver and the electrotypist in general, it is evident that process engraving, especially, has hardly taken root here as compared with its widespread use in the United States, and that while it may be a long time before it considerably supplants lithography, there is a possibility of its doing so, in part, at least, as the years go by. The increasing difficulty that English lithographers experience in competing with American lithographers in the bidding for and securing of first-class lithographic stones from the Continent seems to indicate a danger to the future prosperity of this interesting trade in Great Britain and to justify

the expectation that half-tone printing in three colors will attain more and more vogue here.

Although the different temperament of the Englishman may never lead either reader or editor to desire the use of pictures in newspapers in order to cater to the love of notoriety and sensational publication to the extent that it is shown in other parts of the world, there is also reason to believe that both editor and reader will see the fitness of more pictorial embellishment than they are at present employing, and that only the process engraver, with either the half-tone or zinc block, can meet the demands.

LIFE-LINE EXPERIMENTS.

BRITISH TESTS OF KITES, BALLOON, CANNON, AND SHOULDER GUNS.

Consul John L. Griffiths, of Liverpool, advises that the advisory subcommittee appointed by the British Government to formulate a report upon the question of British ships compulsorily carrying life-line throwing apparatus conducted some most important experiments in Liverpool recently, the results of which are briefly described:

The apparatus submitted comprised kites, buoys, and different styles of guns and rockets. The first tests were those of West's drift buoys, which were followed by the much-improved Regurk box kite. It was the opinion of those who witnessed the experiments that the kite is a successful invention and will be very serviceable when the wind is blowing on a lee shore. One of the most interesting of the tests was made with a balloon constructed of gold beater's skin in two weights. It carried a line for 1,500 yards. The principal tests, however, were made with rockets, cannon, and shoulder guns, which have been carried to a high state of perfection. Much interest was shown in the results of these tests, both by the committee and the nautical experts.

The cannon threw a line a distance of 310 fathoms, which indicates the standard of efficiency to which it has been brought. A projectile is inserted in the cannon, and the cannon is fired by means of a friction tube which propels the projectile a certain distance, and from that point a rocket is discharged which carries the line to its destination. The gun is portable and is easily handled. Another interesting feature is that during the daytime the smoke indicates the direction in which the line is carried, while at night the fire of the rocket denotes the direction. For shore use this gun can be placed on a small handbarrow; and as there are no elaborate accessories, it can be readily worked by any person of ordinary intelligence. This gun is claimed to be the most satisfactory apparatus for heavy work, as, for example, from the deck of large liners.

Two shoulder guns impressed the experts present as the most satisfactory of those produced. They are light, easily handled, and may be fired from any position by a man or boy. The more powerful of the two guns carried a line 345 feet and the other 342 feet. [Illustrations of the shoulder gun and rocket cannon, as well as the names of their inventors and that of the balloon, are filed at the Bureau of Manufactures.]

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

AUSTRALIA.

NEW REGULATIONS GOVERNING IMPORTATION OF GUNS.

The recently enacted tariff of Australia provides for the following duties on arms:

Number.	Arms, viz—	General tariff.	Tariff on goods, the produce or manufacture of the United Kingdom.
139 A	Double-barreled guns and rifles bearing the British or other approved test mark.	15 per cent ad valorem.	10 per cent ad valorem.
139 B	Single-barreled guns and rifles bearing the British or other approved test mark.	15 per cent ad valorem.	10 per cent ad valorem.
139 C.....	Revolvers, pistols	2s. 9d. each, or 20 per cent ad valorem (whichever higher).	2s. 3d. each, or 15 per cent ad valorem (whichever higher).
139 D	Barrels or actions, other— (1) For double-barreled guns bearing the British or other approved test mark. (2) For single-barreled guns bearing the British or other approved test mark.	15 per cent ad valorem. 15 per cent ad valorem.	10 per cent ad valorem. 10 per cent ad valorem.
139 E	Bayonets, swords, fencing foils, and masks; gun, revolver, and pistol covers, cases and fittings; loading tools and cartridge belts.	22.5 per cent ad valorem.	15 per cent ad valorem.
139 F	N. E. I.....	22.5 per cent ad valorem.	15 per cent ad valorem.
139 G	Rifles, military and match and fittings, including authorized cadet rifles and Morris tubes; gun stocks in the rough; barrels (not fitted to any action) bearing the British or other approved test mark.	5 per cent ad valorem.	Free.
139 H	Guns or rifles fitted with barrels which do not bear the British or other approved test mark, or such barrels imported separately, per double-barreled gun or rifle or barrel for such, per single-barreled gun or rifle or barrel for such.	£5 each.....	£5 each.
<p>Provided that until 1st October, 1908, guns and rifles or barrels for same not bearing the marks prescribed in subitem H above may be admitted on payment of the duties applicable to weapons coming within subitems A, B, D (1) and (2), of this item 139, if the minister is satisfied that such guns, rifles, or barrels have been efficiently tested by the manufacturers thereof.</p>			

Consul O. H. Baker, of Sydney, reports, under date of June 9, 1908, that the new provision, if enforced, would affect guns of American manufacture exclusively, as the other countries, Great Britain, Germany, France, and Belgium, exporting guns to Australia, all supply official test marks. In view of this fact the importers of mercantile arms at Sydney addressed the Minister for Customs, calling his attention to the following facts:

(a) That in consequence of the fact that many thousands of guns and rifles are imported into the Commonwealth annually from the

United States, large quantities are at the present time in bond and in transit.

(b) That no official testing arrangements being in force in the United States, the absence of test marks on weapons imported from that country does not signify that they are not capable of passing the highest test.

(c) It is known that similar arms to those imported by Australian merchants from America are constantly being passed through the British proof houses, proved and marked before being sold in that country, in accordance with the English act.

(d) That weapons of standard United States make are known and regarded throughout the trade as being reliably manufactured, and, further, are, in at least the majority of instances, superior to weapons of similar construction which are imported duly bearing test marks of other countries.

In view of these facts the Minister was asked to consider whether, in framing the regulations which are to govern the testing of arms imported prior to October 1st next, he could adopt some testing method by which the Department could standardize certain makes and models of United States weapons as being passable under proper declaration with entry that goods represented in same correspond in all respects with the weapons standardized by such tests, by so doing obviating the necessity of marking each weapon and the expense connected therewith.

The Minister was also asked whether, in view of the fact that no Government tests are in force in the United States, manufacturers in that country could be allowed to carry out certain specified tests at their respective factories, such tests to be prescribed by the Commonwealth Government, and certified both by distinctive mark on the weapons and certificate on invoice.

As a result of this and other representations, a new order was issued by the Australian Government May 18, which is reproduced here from the British Board of Trade Journal of July 2.

It is stated in the circular containing the order that in order to overcome the difficulties caused to traders by the immediate alteration suggested by Parliament, and as the alteration particularly affects importations of American guns—there being no official proof houses in the United States—the Commonwealth Government have decided that—

(1) Guns imported from countries not possessing official proof houses shall be admitted for the present on guarantee by the importers to produce certificate from the makers that the guns have been subjected to a test equivalent to that of the British proof houses.

(2) With regard to future consignments—*i. e.*, after 1st October next—the guns must be marked with the manufacturer's name and the word "tested," or some mark indicating that the test has been made, and accompanied by a certificate from the manufacturers that the word "tested," or the mark indicating testing, as the case may be, is a guarantee that the gun has been subjected to a test equivalent to that of the British proof houses.

(3) The extra duty deposited under the new subitem 139 (H) is to be refunded on guarantee being given by importers to obtain, within four months, the certificate referred to in (1).

BRITISH INDIA.**CUSTOMS TREATMENT OF MOVING PICTURE FILMS.**

Consul-General W. H. Michael reports as follows under date of May 28:

Moving picture films imported into India are liable to duty at 5 per cent ad valorem. The films can be bonded for reexportation by being placed in a bonded warehouse, but they can not be taken out of bond for exhibition except on payment of duty. If cleared on payment of duty seven-eighths of such duty will be repaid as drawback when the goods are reexported, provided their identity be established to the satisfaction of the collector of customs and the reexportation takes place within two years from the date of importation.

BRITISH NORTH BORNEO.**CHANGE IN DUTY ON SPARKLING WINES.**

Consul Lester Maynard, of Sandakan, reports that the duty on sparkling wines in British North Borneo has been changed as follows, quoting from the Official Gazette of April 23, 1908:

Import duty on all sparkling wines shall be levied from this date at the rate of \$2 (\$1.12 United States currency) per gallon, and not as provided in Notification 36 of 1908.

Notification 36 of 1908 provided an import duty of \$1.50 Borneo currency (84 cents United States currency) per gallon on all sparkling wines.

CANADA.**PREPAYMENT OF DUTY ON PRINTED ADVERTISING MATTER.**

Replying to an inquiry of the Bureau of Manufactures as to whether duty can be prepaid on printed advertising matter which United States merchants desire to send to customers in Canada, the commissioner of customs of Canada writes, under date of June 22, 1908, as follows:

Where it is desired to prepay the customs duty this can be done by sending the printed matter in bulk by express to a customs broker or the agent of the express company at a frontier port in Canada, by whom the duty can be paid and postage stamps affixed thereto and the matter then mailed in Canada to the various addresses designated by the exporter. The printed matter may be wrapped separately and addressed in the exporter's office, so as to be distributed by the customs broker in Canada without delay after paying duty thereon.

COSTA RICA.**DUTY ON AUTOMOBILES, MOTOR CYCLES, AND BICYCLES.**

Consul John C. Caldwell reports from San Jose under date of June 12 that, according to a decree promulgated by the Costa Rican Government on that day, the duty on automobiles, motor cycles, and bicycles with motors has been fixed at 0.05 colon (colon, \$0.4651) per kilogram (kilogram, 2.2 pounds). The duty on velocipedes has been reduced from 1.305 to 0.33 colon per kilo. To the above duty should be added wharfage dues of 0.015 colon per kilo and a surtax of 2 per cent of the duty proper for the consular service.

COLOMBIA.**CONSULAR INVOICES AND MANIFESTS.**

Consul Isaac A. Manning, of Cartagena, reports, under date of May 20, on the question of necessary consular papers to accompany shipments of merchandise into Colombia. The consul calls attention to the fact that this requirement is frequently disregarded by American manufacturers and shippers, resulting in great loss of time and annoyance.

The general rules covering these documents are as follows:

Article 8 of the decree of January 27, 1905, says:

For the purpose of consular certification, invoices will be divided into four classes, to wit: First, those invoices that only cover articles of iron, steel, copper, zinc, or wood for machinery for industrial enterprises, such as railways, steamboats, electric lighting, telegraphs, telephones, printing, glass or crockery factories, cotton factories, when these may have been declared of public utility; second, invoices that do not exceed \$200 in value; third, invoices exceeding \$200 in value, but not over \$500; fourth, invoices covering valuation exceeding \$500.

Article 9 says:

For consular certification the charges will be in gold, as follows: Class 1, \$9; class 2, \$18; class 3, \$24; class 4, \$30, for each \$1,000 of invoiced value or fraction thereof.

Article 10 says:

The fee for certification of manifest in Colombian consulates will be \$15 for the first 100 packages, and \$3 for each additional 100 packages or fraction thereof.

APPOINTMENT OF A TARIFF COMMISSION.

Consul Manning, of Cartagena, also reports, under date of May 12, the appointment of a permanent tariff commission with a view to making a thorough study of the effect of the import duties on the commerce of the country. It is intended to revise the tariff in a thorough manner and give it greater stability than has characterized it in the past. It is said that special attention will be given to import duties on corn and rice with a view to their possible reduction.

CUBA.**CHANGE IN TONNAGE DUES.**

Minister Edwin V. Morgan transmits from Habana a copy of the Provisional Governor's decree amending article 176 of the customs regulations, which relates to tonnage dues levied at Cuban ports. The decree, which became effective July 1, 1908, reads as follows:

At all ports or places in Cuba there shall be levied the following tonnage dues:

(a) On entry of a foreign vessel from a port or place not in Cuba, per net ton, 10 cents, not to exceed in the aggregate \$1 per net ton in any one year, to count from the date of the first payment.

(b) On entry of a Cuban vessel from another port or place not in Cuba, 5 cents per net ton, not to exceed in the aggregate 50 cents net tonnage in one year, to count from the date of the first payment.

(c) On entry of a vessel from a port or place in Cuba engaged at the time of entry in the coastwise traffic in Cuba, per net ton, 1 cent, not to exceed in the aggregate 20 cents net tonnage in one year, to count from the date of the first payment.

(d) The following shall be exempted from tonnage dues: (1) Vessels which belong to any neutral foreign government not engaged in trade; (2) yachts

which belong to an organized yacht club of any neutral foreign nation; (3) vessels entering Cuban ports in distress.

(e) The tonnage of a vessel shall be the net or register tonnage stated in her national certificate of registry; in case of doubt, however, said tonnage may be rectified by the customs officials.

INCREASE OF DUTY ON ROASTED COFFEE.

The following is reproduced from the Gaceta Oficial announcing decree No. 563, dated at Habana, May 27, 1908:

Whereas the coffee growers of the island of Cuba have presented a petition calling attention to the fact that the existing tariffs on coffee are fixed by weight and the same rate is imposed on roasted coffee as on the raw product: that by reason of its lighter weight imported roasted coffee has an unequal and unfair advantage in Cuban markets over the raw coffee produced in the island, and the petitioners insist that the import duties on roasted and raw coffees be equalized by increasing the rate on the lighter coffee sufficiently to make up for said difference in weight and thereby place the coffee produced in Cuba upon a footing of equality with the foreign products in the domestic markets;

Whereas the petition is supported by the Agrarian League, the chambers of commerce of Habana, Santiago de Cuba, and other cities, and by numerous other organizations throughout the island; and

Whereas the department of agriculture, industry and commerce, and the treasury department, both report favorably upon said petition; paragraph 286 of the existing customs tariff be, and is hereby, amended to read as follows:

286. Coffee, chicory roots, and chicory:

- | | |
|---|----------|
| (a) In grain raw T (Disp. III, rule 5) 100 kegs..... | \$18. 00 |
| (b) Roasted, in grain or ground T (Disp. III, rule 5) 100 kegs..... | 22. 50 |

The old rate was \$18 per 100 kilos on both roasted and raw coffee. The rates given in the above decree should be increased by the surtax of 30 per cent of the duty, for coffee imported from foreign countries, thus making the rates \$23.40 and \$29.25, respectively, and the total decreased by 20 per cent in the case of imports from the United States, making the final rate on the two kinds of coffee imported from the United States (including Porto Rico) \$18.72 and \$23.40, respectively.

DENMARK.

NEW CUSTOMS TARIFF ADOPTED.

Minister Maurice F. Egan transmits from Copenhagen a copy of the new Danish customs tariff recently enacted by the Danish Rigsdag and signed by the King May 5. The new tariff is to be put into effect January 1, 1909, with the exception of the duties on alcoholic beverages and tobacco, which went into effect May 6.

The minister states that important reductions have been made in many instances, and that duties have been increased on tobacco, liquors, silks, and fruits. Petroleum and rice have been put on the free list.

A comparison of the new tariff with the old shows that the tariff has been reduced on the whole, resulting in a decrease of duties of about 15 to 20 per cent. The duties on raw materials and articles required in manufactures have been considerably reduced and in a number of cases abolished. The duty on coal has been reduced from 24 cents to 8 cents per ton and is to be entirely removed in four years. The principal articles on which a reduction of duties has been made are: Metals and manufactures thereof, textiles (except

silk and artificial silk), lumber, paper, paints and dyes, chemicals, machinery, etc.

THE MOST IMPORTANT ARTICLES AFFECTED.

Consul Frank R. Mowrer, of Copenhagen, transmits the following table of duties on the most important articles exported from the United States to Denmark, showing a comparison of the rates of duty in the old and new tariffs:

[1 krone—26.8 cents United States currency.]

Articles.	Unit of quantity.	Old rates.	New rates.
		<i>Krone.</i>	<i>Krone.</i>
Boots and shoes.....	Kilo.....	1.83	0.60 plus 7½ per cent ad. val.
Canned goods.....	do.....	.29	.40
Canvas and tarpaulin of flax or hemp.....	do.....	.25	.19
Coal.....	100 kilos.....	.09	.08
Coke and cinders.....	do.....	.15	.05
Fencing wire.....	Kilo.....	.125	.05
Fruit, dried.....	do.....	.035	.04
Fruit, preserved.....	do.....	.29	.24
Apples and pears.....	8.8 imp. bus.....	1.00	1.00 per kilo.
Oranges.....	Kilo.....	.06	.065
Grapes.....	do.....	.29	.25
Pineapples, peaches, apricots.....	do.....	.01	.35
Railroad rails, and cast-iron pipes.....	do.....	.01	Free.
Iron hoops and bars with drilled or punched holes.....	do.....	.01	.015
Cast-iron pipes, fittings, etc.....	do.....	.01	.08
Raw iron plates without holes.....	do.....	.01	Free.
Raw iron plates with holes.....	do.....	.01	.015
Raw iron wire.....	do.....	.04	Free.
Other wires of at least 5 m. m. thickness.....	do.....	.04	.02
Iron beds.....	do.....	.125	.04
Leather, blackened, glazed, burned, gilded.....	do.....	.50	.60
Plain deals and boards.....	Danish cubic foot.....	.25	3.50 per cubic meter.
Fine foreign woods.....	do.....	.25	4.50 per cubic meter.
Machines, electric.....	Kilo.....	.125	7½ per cent ad val.
Machines, other.....	do.....	.125	5 per cent ad val.
Nails.....	do.....	.01	.08
Oils, rape and linseed.....	do.....	.08	.07
Other oils.....	do.....	.08	.05
Petroleum.....	do.....	.04	Free.
Razors with handles of bone, horn, caoutchouc, celluloid, base metal, ebony, or colored wood.....	do.....	.125	.50
Razors with handles of precious metal, ivory, mother-of-pearl, tortoise-shell, etc.....	do.....	.67	.70
Rubber shoes and tires.....	do.....	.67	.50
Sugar, pulverized in plates and tops which polarizes above 98 per cent.....	do.....	.25	.10
Pulverized sugar which polarizes above 86, but not above 98 per cent.....	do.....	.125	.065
Pulverized sugar which polarizes above 86, but not above 98 per cent, for refining.....	do.....	.125	.059
Other pulverized sugar, which polarizes 86 per cent and less, white sirup.....	do.....	.08	.04
Tobacco leaves and stems.....	do.....	.29	.64
Cigars.....	do.....	1.67	2.20
Cigarettes.....	do.....	.42	.64 plus 80 per cent ad val.
Wall paper of a weight not exceeding 80 grams per square meter equal to 0.0882 pound per 10.76 square feet.....	do.....	.38	.20
Wall paper of a weight not exceeding 80 grams per square meter equal to 0.0882 pound per 10.76 square feet, not ground painted.....	do.....	.33	.24
Other wall papers.....	do.....	.33	.30
Watches, gold.....	Each.....	1.00	4.00 per kilo.
Other watches.....	do.....	1.00	2.00 per kilo.

FRANCO-CANADIAN TREATY.

RATIFICATION BY FRENCH SENATE DELAYED.

With reference to the Franco-Canadian treaty, an account of which by Consul-General F. H. Mason was published in the Monthly Consular and Trade Reports for July, the State Department is in

receipt of a cable dispatch from Ambassador White to the effect that the treaty has not been ratified as yet by the French Senate. The treaty has been ratified by both Houses of the Canadian Parliament and by French Chamber of Deputies.

ITALY.

REGULATIONS GOVERNING THE MANUFACTURE AND SALE OF EDIBLE OILS.

The Gazzetta Ufficiale of April 16, 1908, contains the following law promulgated by the King of Italy for the protection of the olive-oil industry as well as in the interests of the consumer:

ARTICLE 1. It is prohibited to place on the market under the name of olive oil any product which differs entirely or partly from oil called by that name.

ART. 2. Whoever manufactures, ships, keeps in stock, sells, or puts on sale edible oils in merchantable quantities different from olive oil or resulting from the mixture of olive oil with seed oil or with that derived from other oleaginous substances is required:

(a) To report it to the mayor of the municipality within a month from the publication of this law or the opening of the factory, warehouse, or business.

(b) To indicate by conspicuous characters displayed outside the place of manufacture, warehouse, or sale, as well as on the receptacles, the character of the oil, and whether it is genuine olive oil or mixed with seed oils.

In the absence of such indication, whenever mixed oils or those derived from oleaginous substances or seeds may be found on premises containing alimentary substances, or in cellars or adjoining warehouses, the presumption will be that the oil was intended for human consumption.

ART. 3. Manufacturers of and dealers in edible oils are obliged to furnish, in return for payment, samples of their wares upon request of the municipal authorities or of officers of the ministry of agriculture, industry and commerce.

ART. 4. Whenever it is desired to have proof of the genuineness of olive oil intended for export such proof is furnished, except in the cases otherwise provided for by international treaties, by means of a certificate of the analysis of the sample taken, in the manner to be prescribed in the regulations.

ART. 5. All violations of the provisions of article 1 shall be punishable by a fine of not less than 500 lire, and all violations of the provisions contained in articles 2 and 4 shall be subject to a penalty of not less than 200 lire.

In case of a repetition of the offense the minimum fine is to be doubled, and imprisonment for terms up to three months and one month, respectively, are to be added, coupled with a suspension of business for a period of from ten days to six months.

The application of the penalties mentioned above is not to preclude the application of higher penalties to which the offenders may be later subjected as a result of the provisions of the penal code or other special laws.

ART. 6. The sentence shall be published, at the expense of the offenders, in the local newspapers and affixed to the billboards of the local chamber of commerce and the agricultural boards of the province in which the offenders reside.

ART. 7. Refusal to furnish samples in accordance with the provisions of article 3 is to be punished by a fine of 100 lire, and the operation of taking the samples shall be performed by the authorities.

MEXICO.

FREE ADMISSION OF MINING MACHINERY AND OTHER GOODS.

The Mexican Diario Oficial contains a decree to the effect that during the year commencing July 1, 1908, and ending June 30, 1909, all merchandise mentioned in the decree of May 30, 1905, as well as any that the Executive may designate in addition, will be admitted free of duty, if imported through the custom-houses established in the territory of Quintana Roo for consumption in that territory. Another decree, effective for the same period, permits the entrance free of duty of all machinery to be used in mines and smelting plants.

[A list of merchandise alluded to is contained in the Customs Tariff of Mexico, which can be obtained on application to the Bureau of Manufactures.]

VENEZUELA.

EXPORT DUTY ON SILICATES AND CARBONATES OF MAGNESIUM.

Chargé d'Affaires Jacob Sleeper transmits from Caracas translation of a Venezuelan decree dated May 11, 1908, by which the export duty on natural silicates and carbonates of magnesium, known as dolomite, meerschaum, talc, soapstone, serpentine, magnesite, etc., is fixed at 1 bolivar (\$0.193) per ton of 1,000 kilos (2,204 pounds). Those having contracts with the Federal Executive for the exploitation of one or more of the aforesaid products will pay only the export duty stipulated in the contract.

FINANCES.

BANKS AND BANKING.

CHINA.

RECENT DECREES AND REGULATIONS FOR ESTABLISHMENT OF BANKS.

Chargé d'Affaires Henry P. Fletcher, of the American legation at Peking, transmits the following report, prepared by Student Interpreter Willys R. Peck, on Government banks in China:

Two Government banks have been established, the Imperial Bank and the Bank of Communications, controlled, respectively, by the board of finance and the board of posts and communications. The board of finance has drawn up and gained imperial sanction for a set of general laws relating to banking, and two sets of regulations for the establishment of special forms of banks, viz, industrial and savings banks. It is to be observed that the effect of this recent legislation is to place the whole banking business of the country under the supervision of the board of finance.

THE IMPERIAL BANK.

The Imperial Bank, which has hitherto been called the Bank of the Board of Revenue, is a stock concern, capitalized at 10,000,000 taels (haikwan tael=68 cents), of which the Government will subscribe one-half. Its existence is limited to thirty years, after which period it may be continued if found profitable. While it will transact all ordinary banking business, the main function of the Imperial Bank will be, as far as the board of finance may deem advisable, to serve as the depository for all Government funds, and the medium through which national financial deals may be consummated. Its other duties will be to act as the instrument of the Government in preserving the monetary equilibrium of the Empire by means of loans here and there, as circumstances require, and to control the issuance of paper money. At some future date it will have exclusive prerogatives in this particular, but in all of its activities it is to be under the direct control of the board of finance, the power of the shareholders being practically nominal. As its business expands agencies will be established throughout the country, which will also transact ordinary banking business, while serving as the medium through which the bank may affect monetary conditions in the provinces.

BANKING LAWS—INDUSTRIAL BANKS.

The general banking laws are designed to safeguard business conditions by preventing banks from becoming insolvent. To this end strict Government supervision is made compulsory for all banks, especially as regards the issue of notes. This latter provision will, of course, be unnecessary when the Imperial Bank is vested with the exclusive privilege of issuing them. To compensate for the restrictions

imposed on banks the Government asserts its willingness to aid with a loan from the Imperial Bank any banking concern involved in special difficulties, if said difficulties can be shown to be of an unavoidable and temporary character. The scope of these laws is sweeping, and if they are enforced all the banking business of the Empire will be closely watched by the board of finance.

The industrial banks, provided for in a special series of regulations, may be of private or Government origin and are designed especially as an aid to the lower classes. They are to loan money in small amounts on easy terms as regards security. The rate of interest is not fixed. Local officials will, with public funds, aid each bank for the first years of its existence. Ordinary banking business is permitted if confined to a scale accessible to the lower classes.

The need for special laws regulating the conduct of savings banks arises from the fact that ordinary Chinese banks do not engage in this department of banking, as we understand it. The security of deposits in these banks is safeguarded by the compulsory retirement each year of at least a quarter of all deposits and their retention in an available form as a reserve fund. Registration with the board of finance of all banks doing this kind of business, and constant supervision of their affairs by the same board, are henceforth to be compulsory throughout the Empire.

BANK OF COMMUNICATIONS.

Just as the Imperial Bank is the instrument of the board of finance so the Bank of Communications is the organ of the board of posts and communications in its control of railways, telegraph lines, and postal facilities. In addition to transacting the ordinary business of a bank, its special function will be to act as place of deposit for the funds of public utilities under the control of the board of posts and communications. It will also care for all funds accumulated for the redemption of the Peking-Hankow Railway, and will have control of all bonds issued by the Government to provide for the construction of railways. It will establish agencies or connections wherever conditions demand, but these and the central office will in every essential particular be under the direct control of the board of posts and communications.

As will be observed the changes inaugurated in this new legislation are far-reaching. But it is reasonable to expect large developments along these lines. Li Ching-ch'u, a nephew of Li Hung-chang, and a man of experience in banking, is president of the Bank of Communications. This bank is temporarily located in the southern city; the equipment, as regards both accommodations and staff being on a generous scale. A permanent building will be erected in the Tartar city, opposite the building of the Imperial Bank. The latter, since it is a continuation of the Bank of the Board of Revenue, is an energetic concern. It has recently dispatched Mr. Ch'en Chin-t'ao, an official educated in the United States, to Europe and the United States to buy machinery and engage a superintendent in preparation for the printing of paper money. [Regulations of the Imperial Bank, laws relating to banking, savings bank laws, regulations for industrial banks, and regulations for the Bank of Communications, transmitted with the foregoing report, are on file in the Bureau of Manufactures.]

BRAZIL.**INCREASED LOANS INDICATE CONSIDERABLE BUSINESS CHANGES.**

Consul-General George E. Anderson, of Rio de Janeiro, advises that the annual reports of the foreign banks doing business in Brazil and in the countries of the eastern coast of South America generally show a very large increase in loans, to which he adds:

This includes the departments of banking generally known as banking proper, as distinct from the large portion of the earnings of these institutions due to international exchange business. This change, which is commented upon generally in the annual meetings of the corporations concerned, is said by those in a position to know to indicate a change of vast importance to the business world in South America and to all countries dealing with the countries served by these banks. The change consists in the decreasing use of long-term credits by Brazilian and other South American buyers and more discounting of commercial paper by banks so as to enable Brazilian purchasers to pay cash or buy on short-term credits. Inasmuch as one of the chief stumbling blocks in the extension of American export trade in this portion of the world has been an indisposition on the part of American exporters to grant credits, due to the fact that American manufacturers have preferred to do business upon a cash basis with a lower margin of profit than upon a credit basis with a larger, this change is of vast importance to American export interests.

DISCOUNT STATISTICS—LENGTH OF CREDIT.

The extent of this change in the past year is illustrated in the statements of the five foreign banks in Rio de Janeiro at the end of February, 1908, as compared with February, 1907. There was an increase in the amount of bills discounted of 7,035 contos of reis, or about \$2,110,500; in bills receivable, of 8,756 contos, or about \$2,626,800; in bills and securities pledged, of 9,419 contos, or about \$2,825,700.

American exporters are not to infer that the time-honored custom of Brazil and South American countries generally of buying goods on from three to six and even nine months' credit has been discontinued. In some lines of business the custom is just as strong as ever, and it is likely to continue indefinitely.

The present general method followed by most Brazilian houses is to buy on, say, six months' time, with interest at, say, 6 per cent from date of invoice. The jobber who thus purchases sells to the retailer on, say, three months' credit. The retailer sells for cash or arranges so that he can pay his bills at the end of the three months' credit. Thus the jobber and retailer do business with less capital than if their transactions were for cash. So long as interest charges in banks are higher than the rate of interest charged by the manufacturer or exporter on the original sale, this lack of capital has best been met by this credit system.

BANKS MORE LARGELY USED—CONFORMING TO CUSTOM.

When banks loan money for the same rate or less than the manufacturers or exporters, it pays to discount bills and pay cash or take short-term credits. What change there has been in buying methods indicated in the bank reports referred to is likely to have been more

in the direction of using the banks in place of the manufacturers or exporters than in the way of any material change in financial conditions generally, although some have occurred.

In the meanwhile the advisability of American exporters of extending credits on account of custom, the sharp competition for the Brazilian trade is as urgent as ever and in the majority of cases American houses need have no material difficulty in securing trustworthy information upon which to base them.

SPANISH BUDGET.

SMALL SURPLUS BUT NO DEFICIT FEARED—NO NEW LOANS ANNOUNCED.

In transmitting the following information concerning the draft of the Spanish budget for 1909, as read in the Cortes, American Minister William Miller Collier, of Madrid, reports that it contains no radical changes and has had no effect upon the price of state securities:

While it is estimated that the operation of this year's budget will yield a surplus of only 20,000,000 pesetas (\$3,360,000) instead of the 70,000,000 pesetas (\$11,760,000) yielded in 1907, and that the proposed budget for 1909 will show a surplus of only 16,000,000 pesetas (\$2,688,000), yet, on the other hand, no deficit is feared, and the fact that no new loan is announced has been well received in financial circles.

The draft of the budget for 1909 sets forth the expenditure and revenue as follows: Expenses, 1,043,720,746 pesetas; receipts, 1,059,919,366 pesetas; estimated surplus, 16,198,620 pesetas. Reduced to United States currency at the latest estimated value of the peseta (16.8 cents) the amounts would be: Expenses, \$175,345,085; receipts, \$178,066,453; estimated surplus, \$2,721,368.

When the foregoing estimated revenue is compared with the estimate for 1908, there appear the following differences: Direct taxes, 4,500,000 pesetas increase; indirect taxes, 200,000 pesetas increase; monopolies, 11,150,000 pesetas increase; tax on property, 500,000 pesetas decrease; treasury resources, 3,888,889 increase; total increased income, 19,738,889 pesetas. The points in the proposed budget which are likely to give rise to the most discussion are the following:

ANNUITIES FOR PUBLIC IMPROVEMENTS.

An interesting innovation appears under the heading of public debt. In order to furnish funds for the new post-office and telegraph extension (10,000,000 pesetas), for the improvement of the national schools (7,000,000 pesetas), and for the building and subsidizing of provincial railways (26,000,000 pesetas), it is provided that expenditures to the total amount of 43,000,000 pesetas (\$7,224,000) may be made for these purposes in the year 1909, and that the contractors undertaking the said works shall receive payment in the form of annuities amounting in 1909 to 2,500,000 pesetas (\$420,000), which sum is sufficient to provide interest and sinking fund on the 43,000,000 pesetas. By way of capitalizing these annuities, the contractors, or banks representing them, shall have the right to issue securities which will practically be equivalent to state securities, since their interest and sinking fund will be guaranteed by the State.

This installment method of financing much-needed improvements has been adopted in order to avoid either a large increase in taxation

or an addition to the national debt. The 2,500,000 pesetas needed for these annuities in the year 1909 account for the increase in this item of public debt.

INCREASES IN REVENUE.

Under direct taxes the estimated increase is obtained by extending the tax on "utilities" to foreign banking and commercial corporations and to the legal and other professions. This, it is calculated, will produce 3,500,000 pesetas (\$588,000). Another million is to be derived from the increase in taxes on transfers and conveyances.

Under monopolies the estimated increases are 1,500,000 pesetas (\$252,000) in the stamp tax, 3,000,000 pesetas (\$504,000) in the tax on wax matches, and 6,500,000 pesetas (\$1,092,000) in the tobacco revenue. This last will be obtained by raising the price of certain grades of tobacco and readjusting the contract between the State and the company which holds the tobacco monopoly.

Under treasury resources the estimated increase is based upon the fact that the sums received for redemption from military and naval service in 1907 and in the first quarter of 1908 have shown a large increase.

DIRECT TAX ON FOREIGN CORPORATIONS.

The extension of the tax on "utilities" is the only new tax by which foreigners are directly affected. For the branches and agencies of foreign commercial and manufacturing companies doing business in Madrid or Barcelona there is fixed a graduated scale of taxation, based on the amount of their capital stock, as follows:

Capital.	Tax.	Capital.	Tax.
	<i>Pesetas.</i>		<i>Pesetas.</i>
Up to 1,000,000 pesetas.....	5,000	50,000,000 to 75,000,000 pesetas.....	60,000
1,000,000 to 5,000,000 pesetas..	10,000	75,000,000 to 100,000,000 pesetas.....	80,000
5,000,000 to 25,000,000 pesetas.....	20,000	100,000,000 pesetas and over.....	100,000
25,000,000 to 50,000,000 pesetas.....	40,000		

In the capitals of provinces, other than Madrid and Barcelona, the scale is reduced to one-half, and in other towns to one-quarter of the foregoing figures.

ECONOMIC CONDITIONS IN JAPAN.

FINANCIAL RESOURCES AND TAXATION IN THE ISLAND KINGDOM.

Consul-General Henry B. Miller sends from Yokohama the following abstract from the Japan Chronicle concerning the financial situation there:

The Japanese Financial Commissioner in London recently estimated that Japanese paid 35 per cent in taxation, direct and indirect. The Hochi estimates it at a much larger figure. Although no precise figures regarding the national wealth and the income of the people of this country are available, yet the result of investigations made by the Bank of Japan and other authorities shows the national wealth to amount to about \$10,000,000,000 gold, and the total income of the people to between \$1,500,000,000 and \$2,000,000,000. This estimate appears to be fairly correct. Taking two-thirds of this income as the cost of living, a surplus of about \$650,000,000 will be left. The amount collected in taxes reaches to between \$300,000,000 and \$400,000,000 for national taxes and to between \$75,000,000 and \$100,000,000 for local taxes.

The prevailing depression in trade, which has resulted in a lowering of the price of merchandise, must have reduced the income of the people by 10 or

20 per cent. Taking the decline in income at 10 per cent, the total income of \$2,000,000,000 will be reduced to \$1,800,000,000, but the cost of living can not be reduced in proportion, so that the surplus available will decline to \$500,000,000.

The estimated annual revenue of the tobacco monopoly now amounts to \$36,500,000 and the expenditure to \$16,000,000, while the yield of the salt monopoly is \$11,500,000 and the expenditure \$7,500,000, bringing up the total profit on these two monopolies to about \$25,000,000.

WORLD'S NEGOTIABLE SECURITIES.

ESTIMATES OF THEIR MARKET VALUE AND SHARE PER CAPITA.

M. Neymarck, of France, has made detailed estimates of the world's negotiable securities. For 12 European countries his aggregate is 75,000 million dollars; for the United States, 34,514 million dollars, and for Japan, 1,563 million dollars. He estimates the total population of these countries at 565½ millions, and therefore assigns an average of \$196 per person of this paper wealth. His statistics, which follow, are expressed in millions:

Countries.	Total values.	Population.	Value per head.
Great Britain	\$26,400	42.8	\$617
France	19,500	38.9	501
Germany	10,000	56.4	177
Russia	5,400	129.0	42
Austria-Hungary	4,400	45.4	97
Netherlands	2,200	5.4	406
Italy	2,300	33.2	69
Belgium	1,400	6.9	200
Spain	1,300	18.6	69
Switzerland	1,100	3.3	331
Denmark	600	2.6	226
Sweden and other European	400	51.5	77
United States	34,514	83.2	414
Japan	1,563	47.9	29
Grand total	111,077	565.1	196

SAXON INCOMES.

STATISTICS SHOWING THEIR SOURCE IN FOUR LARGE CITIES.

Consul Thomas H. Norton, of Chemnitz, furnishes the following statement, showing the sources of income of the inhabitants of the four cities in the Kingdom of Saxony having a population each of over 100,000 for 1907:

Source of income.	Leipzig.	Dresden.	Chemnitz.	Plauen.
Landed property	\$13,403,962	\$13,501,585	\$4,528,237	\$2,136,577
Bonds, stocks, etc.	14,466,659	19,277,149	4,062,861	1,682,947
Salaries and wages	54,673,388	54,321,001	23,576,760	9,517,597
Commerce and industry	38,436,919	28,935,941	14,489,203	7,993,428
Total	120,980,928	116,035,676	46,607,061	21,330,549
Deduct interest on mortgages and other forms of debt	11,218,775	14,117,984	3,311,358	1,835,186
Net income	109,762,153	101,917,692	43,295,703	19,495,363
Per capita income	217	202	177	185

TRADE EXTENSION.

SUGGESTIONS TO EXPORTERS.

BRAZIL.

PACKING, SHIPPING INSTRUCTIONS, AND CUSTOMS REGULATIONS.

Consul John W. O'Hara, of Santos, furnishes the following information relative to the proper preparation and invoicing of goods for Brazil, especially for Santos:

A great many complaints have come to this consulate about the manner in which merchandise purchased from American merchants, manufacturers, and exporters is received at this port. The greatest trouble, inconvenience, and sometimes expense, is occasioned by not having the merchandise properly manifested and invoiced. One hears but little complaint on account of faulty packing—in this respect a very great improvement is noticeable within the past two years. The only complaint now heard with respect to the packing of goods is that boxes and cases occasionally arrive without being securely banded or strapped with hoop iron, and failing in this respect, cases containing small articles are sometimes opened and some of the contents abstracted. However, in the main the packing is good.

The particular matter to which attention is called at this time is the failure to follow shipping instructions and to conform to the rules and regulations of the customs authorities of this country. A detailed statement of the steps necessary to be followed in order to clear merchandise from the custom-house of a Brazilian port with the least possible delay, trouble, and expense herewith follows:

INVOICING.

For all merchandise of the value of more than 200 milreis (milreis=30 cents) the shipper should secure a Brazilian consular invoice. This invoice should contain the proper marks, the number of articles or cases, and the gross and net weight of each expressed in kilos (kilo=2.2046 pounds); and should the contents be contained in cans, bottles, or other containers, the net or actual weight of the merchandise should be given, each in its proper column, and the containers should be described, stating materials. In order to facilitate clearing, great care should be taken in description where several articles are included in one case or package.

Each article or class of articles contained should be described, or at least named, and the number given. Ambiguous declarations made in the consular invoice and in the manifest always cause delay, and frequently heavy fines are imposed upon importers because an error has been made in the declaration as to the number or quality of the articles in either manifest or invoice. The wording of the bill of lading should be exactly the same as that of the consular invoice, as the manifest of cargo is made from the former, and any discrepancy

between the two documents necessitates the opening and inspection in the presence of a special committee of each article and each case, for the expense of which the consignee must pay, together with a fine, if the authorities feel justified in imposing one.

In cases where it is impractical to give a definite description of the articles of merchandise contained in a particular case, the contents should be marked as "Miscellaneous" in the consular invoice and bill of lading, and should never take the name of the leading article only, as very often happens, and which always ends in giving trouble to the consignee.

NOTIFYING CONSIGNEES—CLEARING AMERICAN GOODS.

The shipper should always notify the consignee in due time of the date of shipment and of the name of the steamer carrying the merchandise, sending at the same time the necessary documents so that the consignee may be prepared to clear the merchandise upon its arrival, thus saving heavy storage charges. This is very important in shipping through this port and Sao Paulo or to other points in the interior. A very small percentage of the importations into this State are for the port of Santos, yet all enter here.

I have talked with several dealers about handling American merchandise, and have been informed by some of them that they have tried "sample orders," and that while they were better pleased in most instances with these than with similar articles made in Europe, they have had so much trouble and expense in clearing the goods that they have been compelled to go back to their European houses.

In many instances they buy American goods in Europe, preferring to pay double freight rates and commissions and avoid the trouble and expense occasioned in dispatching here. These complaints are by no means universal, as many experienced shippers are sending goods to this market and complying strictly with all the shipping requirements, and their consignees are experiencing no trouble. It is the new shippers about which the complaints are made and to whom these instructions are particularly directed. There is no reason why the American manufacturer and exporter should not give the same care and attention to necessary details that is given by his European rivals.

This is a great market and American manufactured articles are very popular and, in most instances, preferred to those manufactured in other countries, and it is only necessary for our people to give more attention to detailed instructions to greatly increase the sale of American merchandise.

SPAIN.

AMERICAN VERSUS EUROPEAN TRADE SYSTEMS IN THE PENINSULA.

The following information relative to the manner in which American trade in Spain is handicapped is furnished by Consul Charles M. Caughy, of Malaga:

Recently an opportunity presented itself to talk with a continental commercial traveler, who for many years has made this portion of Spain his field of exploitation, selling goods for a firm in Barcelona which represents foreign houses. His samples and photographs cov-

ered a very large variety of articles from every European country, but nothing from the United States except a cheap quality of dress shield, handled, however, by a German house.

Upon inquiring why there were not other articles from the United States he replied that his firm had made numerous attempts to secure American trade connections, but that the iron-bound rule of cash against documents was prohibitive. He added that manufacturers of a certain European country readily appreciated this fact and were constantly imitating American goods and selling them at much lower figures than the American catalogues quoted. He showed the photograph of a portable oil cooking stove which could be sold here at a profit for \$4, while the American stove, of which it is an exact copy, is listed at \$6. He agreed with me that the only solution of the difficulty would be for several manufacturers, whose wares do not conflict, to establish an agency in each of the larger cities, consign the goods and take bonds from the agents, and every six months make them settle for the amount sold. There are plenty of reputable representatives abroad to whom such a proposition would be acceptable, and the terms would enable them to make profitable sales on credit.

CUBA.

COMMISSION AGENTS WHO WILL DISPLAY GOODS ARE ADVISED.

Consul Max J. Baehr, writing from Cienfuegos, says that the increase of American trade with Cuba since the reciprocity treaty between the two countries went into effect has been gratifying and that it must be pleasing to the American manufacturer and exporter. He continues:

However, their interest could be still further enhanced. I would repeat the necessity of being properly represented in each Cuban province by reliable local agents selected from the resident commission agents of the respective localities, who by reason of a thorough local knowledge of the trade and customs know the needs of the people intimately, and thereby give better results than ambulant salesmen, devoid of this knowledge and of the language of the country; even periodical visits from agents or representatives located in Habana are insufficient to keep in touch with the varying market conditions or changes of fashion, all of which should be promptly reported to the home office, so that it may properly and intelligently meet competition.

LOCAL EXHIBITION ROOMS.

To this end I have urged one of our most active, energetic, and successful young commission merchants [name on record at Bureau of Manufactures] to make an effort in this direction, and I submit his letter setting forth plainly the conditions under which he offers opportunity to American manufacturers desirous of extending their trade to this region. As he speaks English fluently, correspondence with him can be conducted in this language. The letter reads:

In view of the propitious prospects that are offered here for the introduction of merchandise of American origin, I am desirous of making connections with reliable and reputable concerns in the United States for handling and exhibiting their goods. I have recently engaged a large and spacious store situated in the

center of the business section and most appropriate for the purpose of exhibiting all kinds of manufactured goods. My idea is to have this place as a showroom for merchandise of American manufacture, and solicit your cooperation in inviting the attention of all manufacturers who would be disposed to consider the following proposition, viz:

That they send me one or more of each of the different kinds of goods they handle, which I would keep as samples on exhibit and from which I would take orders from the wholesale dealers, who would be no other than reliable people. They—the manufacturers—would ship the goods ordered direct to the purchaser with the corresponding documents, and the latter remit draft to cover on receipt of merchandise, and I would expect from the shippers a commission on all sales effected. Should I find it necessary to dispose at any time of the samples in my possession, I would immediately remit and order others in their stead on the same conditions.

I would be responsible to the manufacturer for such samples or goods that would be sent to me, and the same may be charged up to me or kept for account, as would be preferred.

The foregoing proposition is exceedingly advantageous to American manufacturers for the exhibition and introduction of their goods in this market without entailing any cost to them for storeroom or any other expense that would be incurred otherwise.

The following are some of the lines of goods that I think would be salable in this market, viz:

Contractor's carts and farm wagons.
Vehicles of all descriptions.
Office and household furniture, including wicker.
Harnesses.
Iron safes.
Automobiles.
Typewriters.
Phonographs.

Bicycles.
Plated and nickel wares.
Cash registers.
Fire extinguishers.
Wire and other fencing.
Refrigerators.
Sanitary equipment for houses.
Novelties of all kinds.

PACKING REQUIREMENTS.

BRITISH INDIA.

HOW TO SAFEGUARD GOODS DESTINED FOR THE FAR EAST.

In transmitting the following interview with an American commercial traveler who has devoted thirteen years to the successful exploitation of trade in the Orient, principally in India, Consul-General William H. Michael, of Calcutta, writes:

His success in selling American manufactured goods, as well as his general demeanor, so impressed me that I determined to get his views on commercial points of interest to American manufacturers and exporters, especially those whose interests lie in the trade of the Orient and Far East. The business man states:

After all that has been said and printed on the subject of packing goods for foreign shipment it seems superfluous to add anything. Yet it is so vital a point and of so much consequence to success in placing American goods in a foreign market, and to show some of the difficulties importers in India have to put up with, and really the losses sustained by reason of bad packing, I venture to refer to it.

PACKING GOODS FOR FOREIGN SHIPMENT.

I will call your attention to a shipment of inkstands of fairly high price from a maker in Ohio for one of our large Calcutta stationers. These inkstands were single and double assorted in the order, with wooden case, each in a pasteboard box which was the exact size of the wooden base, leaving considerable room for the glass wells above. These wells were wrapped in thin tis-

sue, while the glass tops were also wrapped in tissue, with a small quantity of excelsior between, leaving considerable room for the four pieces of glass to play about in the box. When the goods arrived fully 25 per cent was broken, all because of not using 1 cent's worth more of excelsior to hold the glassware tight in the box. When the maker was asked to replace the breakage he stated that he was not responsible for breakage. Can you imagine that he would be able to get another order from his customer, who was otherwise pleased with the goods, but which cost him 25 to 30 per cent more than he had bargained for?

Manufacturers of patent medicines do a large business in foreign countries, especially India, and many of them have taken heed of the advice given and the recommendations so earnestly made by consuls and by a large New York export house, which is vitally interested in this line of business, and whose travelers cover not only India, but all Asiatic countries, but still many refuse to wrap their bottles in corrugated paper, top and sides, packing them in cases lined with the same material. Consequently the bottles are broken, and those which are not destroyed in this way are rendered unsalable by the liquid from the broken bottles soiling the few remaining ones. Many of the makers who are supplying their goods packed in this way refuse to make any allowance to the purchaser or even send him fresh labels to put the goods in salable condition. What an unsatisfactory situation for the exporter to be in, and you can imagine how difficult it would be for him to get repeat orders under such conditions.

Now, as to the cases which are used in which to pack goods, I have seen some cases, containing heavy goods, only three-eighths inch thick. Sometimes these cases are second-hand and in a rotten condition, without even a wire strap around them. Cases coming all this distance and with the rough handling at transshipment ports can not arrive safely unless they are of at least three-fourths inch wood, and in most cases 1-inch wood is required.

PILFERING EN ROUTE.

For the protection of goods both in transshipment sheds, on board steamers, and at the landing jetties it is most important that all cases, no matter what the contents are, should be strapped and sealed. This operation may take a little time and cost a small amount of money, but by so doing the packer will find that he will have no claims for shortage and the buyer will receive what he has paid for, while otherwise he may find his cases containing half the goods he ordered and half coal and rubbish, which the man who has stolen his goods has supplied in their place. The maker can always protect himself by stamping on his invoice "Cases strapped and sealed; see that the seal is unbroken before taking delivery; no allowance made for pilferage." If this system is followed, time, money, and trouble will be reduced to a minimum and business will increase. The lead seals are used in connection with a wire which is put around the center of the case; a thin wire will do. The wire is fastened with brads at suitable intervals, and both ends are inserted in the lead; the lead is then pressed together by means of a special tool made for the purpose, and the case can not be opened unless the seal is broken.

Another thing in connection with the pilferage of goods en route might be mentioned. Most makers have a weakness for stencilling or printing the contents on the sides of the cases, which they think will serve as an advertisement, whereas it serves principally as a guide to the man who is doing the pilfering and enables him to select cases containing goods which he can most readily dispose of. This has been proven over and over again from the fact that certain manufacturers' goods who do this "advertising" on their cases are more often robbed than others who have plain cases.

A PRACTICAL ILLUSTRATION.

I represent a very well known American manufacturer of tooth and hair brushes, and I sell their goods all over the world, and when passing through Egypt in November last I called to see the largest chemist in Port Said, who is a very good customer of mine. In talking over toothbrushes he said that he thought my prices were rather high for that particular brush, which is sold on its name, and as a reason he stated that a hairdresser next door had bought the same brush for about half the price, and upon my expressing a doubt he accompanied me next door, and we interviewed the party, who stated that he had bought a gross of them from some party who had called, and it was true that they were sold at half price. I immediately came to the conclusion that

some one in India would be short one gross of toothbrushes, as I was sure that the brushes had been taken from some case going to India, where we do a large business.

It was not until I arrived in central India that I learned to whom these belonged, and then I found that not only were the toothbrushes stolen, but also a large quantity of hairbrushes, the case being filled with coal and rubbish. This is hard on the dealer, as he received nothing for his money, the case being so cleverly opened that it could not be detected when taking delivery from the steamer; so no insurance was allowed. The value of the goods was \$100. Strapping and sealing could not cost over 10 to 15 cents—practically nothing—and to save this small amount this large loss was incurred, not to speak of the duty which was paid on the value of the invoice and not refunded. This maker had the contents of the case printed in fancy red letters on the shipping boxes.

PROPER MARKING OF CASES.

Another serious fault is the marking of the cases by the manufacturer. Every export order has a mark of some sort on it, so that it may be easily distinguished, and which should agree with the mark on the invoice. Should the mark not agree with the invoice and also with the bill of lading, the importer is fined from 16 to 32 cents for each error. This is not only expensive, but causes delays in clearing the goods, which sometimes means wharf rent and pilferage. I have seen a shipment of 40 cases from New York, of a well-known general manufacturing concern, in which there were three errors in marking every case. The cases were all marked "P. M. B.," while the invoice and bill of lading read "L. M. D." The number on each case differed from the bill of lading and also from the invoice, and the marks on the cases were so indistinct and so small that they could hardly be read when they arrived. The manufacturer referred to does a tremendous business, so what impression do you think this makes on his customers abroad?

In connection with marking cases it is of the greatest importance that nothing but the shipping marks, such as appear on the invoice and the bill of lading, be put on the cases, otherwise the importer is liable to a fine. Frequently manufacturers use second-hand cases on which there are many old marks, so that it is often difficult to make out the proper mark. These superfluous marks and numbers cause much trouble in the custom-house and expense to the importer. Numbers and marks should always be made in stencil or in bold type and letters with black marking ink. The marks should be large enough to cover one side of a case, say 18 inches square, so that they can be read at a distance. You would be surprised to see the number of well-known manufacturers who mark their cases for export shipment with a blue lead pencil, sometimes with an ordinary black one, and you can imagine how much is left of that mark after it has rubbed up against dozens of other cases and been handled by coolies many times. To make it worse, I have seen such a mark in black lead pencil on a side of a case 4 feet square, dimensions of mark being about 3 inches square, and the case having different domestic marks on every side, it being a second-hand one, and the manufacturer did not think it worth while to scrape the old marks off.

BRAZIL.

AMERICAN SCHOOL FURNITURE ARRIVES IN POOR CONDITION.

The latest example of bad packing of American goods for shipment to Brazil is stated by Consul-General George E. Anderson to have been in school furniture, concerning which he writes:

Some time ago the school authorities of the State of Minas Geraes ordered about \$10,000 worth of American school furniture for use in the schools of that State in and near Bello Horizonte, the State capital. The order was placed through the head of an American mission school in Bello Horizonte, and it was understood that the order was experimental and that if the furniture came properly, was what it was supposed to be, and gave satisfaction, the order would be followed by others.

In view of the fact that the State of Minas Geraes is very progressive, is pushing its educational development very rapidly, and is disposed to take up with American school methods in all lines—its present system of schools being arranged on the lines of the Massachusetts system—the importance of this order was to be duly appreciated.

The goods came in due time and were in such condition by reason of flimsy packing that a very large portion of them was little more than scrap iron and kindling wood. The concern financing the operation had paid about \$8,000 on the order and has refused to pay more because of the manner in which the goods were shipped. There seems to have been no difference in the packing of these goods for shipment to Brazil by steamer and thence by rail with two transshipments from the ordinary packing for short-haul shipments in the United States.

INACCURATE INVOICES.

Another fault in American export methods has appeared in a shipment of school furniture for an American school in Juiz de Fora, Minas Geraes. This lot of furniture was invoiced in a Brazilian consulate in the United States as contained in, say, fifteen cases, when as a matter of fact the furniture itself was in fifteen cases and necessary parts accompanying it were in another case not invoiced. The result is that the goods are held up in the Brazilian custom-house until the ownership and contents of the extra case can be established in regular form. Assuming that the matter will be straightened out in due time the best that can be said of the matter is that there is a delay of more or less than three months in the arrival of the goods ordered by the school.

The necessity of following all shipping directions and of conforming to all legal requirements of consular and other invoicing before the goods leave the United States can not be too strongly impressed upon American exporters. The failure to properly meet all such requirements not only is embarrassing to the consignee and may mean a great delay in obtaining his goods, which in the meanwhile may be spoiling in the custom-house in a hot damp climate, but is likely to have financial results of a very unsatisfactory sort, the custom-house fines and penalties in Brazil and many other countries being severe.

THE CONTROLLING FACTORS IN TRADE.

It is safe to say that the proper regard and care for all shipping requirements, the proper packing, and the proper dispatch of goods by one of the faster and better class of vessels amount to more in the long run than slight differences in prices which many American shippers seem to regard as the controlling feature in such matters. The average Brazilian consumer of foreign goods gives less attention to price than to whether or not goods meet with his desires and requirements, whether he can count upon securing them promptly, and the credit upon which they are sold. Of course, all other things being equal, price will govern in Brazil as it does everywhere else, but the importance of other elements in trade must not be neglected.

There has been a vast improvement in the manner in which American goods are packed and shipped as a whole, but this improvement seems to come only after each firm commencing foreign shipments learns by costly experience that improved packing is an absolute necessity.

GERMAN EXPORT METHODS.

FORMATION OF A NATIONAL ORGANIZATION FOR TRADE PROMOTION.

Consul-General Richard Guenther, of Frankfort, furnishes the following information relative to a new movement of commercial organizations for the promotion of the export of the Empire:

In response to an invitation from the Central Association of Industrials, the Industrial League, and the Association for Commercial Treaties, a large meeting was held on May 2 at Berlin to consider the project of creating a great central organization for the promotion of the export trade of the Empire.

Besides the foregoing associations, the following prominent trade organizations were represented by delegates: Trade Treaties League, Association of Chemical Industries, Association of Electrical Industries, the Union of Berlin Merchants and Manufacturers, the German Export-Bank, the Association of German Exporting Firms, the German Tobacco Association of Frankfort, the Associated Paper Manufacturers, the Associated Sugar Interests, the Cotton Consumers, the Association of Bavarian Exporters, the Association of South-German Export Firms, the Association of Hamburg Exporters, the Elders of the Berlin Mercantile Guild, and the Central Diet of Germany's Chambers of Commerce. Different chambers of commerce of Germany and numerous smaller manufacturing and commercial bodies were also represented, and quite a number of members of the National House of Representatives were present.

Doctor Wendtlandt, the Syndic of the German Industrial League, addressed the assemblage as follows:

Our exporters having agencies or branches abroad now receive from there information concerning foreign business opportunities many weeks sooner than those of our German exporters who depend on government or other courses. The projected Central Bureau for German Export Trade is expected to work in union with the Federal organizations, such as the consuls and commercial attachés, which it is hoped will eventually be embodied in a Federal department of commerce. In this respect Belgium and England have worked with great success and might serve as models worthy of our emulation. It is owing to this advantage that England has been enabled to crowd us out of our formerly held record of "first in percentage ratio" of increase of export trade. It is a fact that the need of such a "Central Bureau for our export trade" has been recognized by nearly all branches of our production.

Several other speakers presented their views, after which the subject was submitted to a special committee.

MISCELLANEOUS.

PARCELS POST.

BRAZIL.

AMERICAN TRADE HANDICAPPED TO ADVANTAGE OF EUROPEANS.

Consul-General George E. Anderson, of Rio de Janeiro, points out how successfully European countries use the Portuguese parcels-post system to Brazil:

There is a parcels-post convention between Brazil and one other country only, but that convention operates for the benefit of the trade of all countries in Europe. The convention with Portugal was effected in 1900, and the number of packages handled since that time has been—1900, 186; 1901, 2,700; 1902, 6,906; 1903, 11,400; 1904, 18,143; 1905, 37,338; 1906, 47,213, and in 1907, 54,916.

Brazilian merchants are complaining that the imports by means of the parcels system have come to be a serious inroad upon their trade, and the most influential journal in the Brazilian capital has taken up their complaint with a view of arousing opposition to the further continuance of the convention.

The matter is of more than passing interest to the United States for the reason that under present conditions the United States is the only one of the countries having a considerable trade with Brazil which has no service with this country, while all its trade rivals have such a service. So long as Great Britain and Portugal have a parcels-post convention and Portugal and Brazil have one, the means of shipping parcels by post from Great Britain to Brazil is quite plain. The same is true of other European countries and of countries dealing directly or indirectly with Portugal with such a postal agreement. In the case of Europe, however, shipment by way of Portugal is the natural route to Brazil, steamers leaving Lisbon as the last port of call in Europe proper on their way out. The advantage of the present system to most European countries in most respects is all but that of a direct convention of their own in each case.

HAMPERING AMERICAN COMMERCE.

Merchants here dealing with the United States have been hampered in many ways. For instance, a rubber-stamp manufacturer in Rio de Janeiro has from time to time ordered small parts needed in his business from American dealers. The latter were instructed by him to place letter postage on the package at international postage rates. Not only did this mean great expense compared with the value of the goods, but generally it resulted in the American manufacturer, accustomed to sending parcels in domestic service, failing to place enough postage upon the package to carry it.

Under the postal rules the package was not forwarded "postage due," but a notice was sent the addressee here that a package ad-

dressed to him was held in the American post-office for insufficient postage and that if he would send the proper amount in stamps the package would be forwarded. Assuming that he was able to do this promptly, it is evident that his package was held in the United States two months, and the round trip for order and goods required four months instead of two months, as expected. Compare this with a possible round-trip order and goods at low postage rates from Europe in six weeks and the reasons why American trade has suffered are quite evident.

The goods brought by the parcels post from Europe are especially valuable, as they are often samples, and, while of no great value in themselves, represent a valuable factor in international trade. Nevertheless, duties were collected upon them in the Brazilian custom-houses last year to the extent of substantially \$203,500, the value of the goods probably being about the same. A large portion of the parcels-post imports are of clothing, boots, shoes, and similar goods, some of which would doubtless come from the United States in preference to other nations were the same facilities to be had.

CHINA.

INADEQUATE AMERICAN FACILITIES AT PORT OF SHANGHAI.

Consul-General Charles Denby, of Shanghai, transmits the following statements by United States Postal Agent John M. Darrah, of that Chinese metropolis, on the transmission of packages by mail:

Attention is called to the following facts relative to the arrangement, under the Parcels Post Convention between the Empire of Japan and the United States of America, of 1904, by which parcels are dispatched from the United States to places in China:

The number of parcels sent by parcels post from the United States to places in China, other than Shanghai, from August 20, 1907, to March 26, 1908, was 2,010. The number addressed to Shanghai was 805. At least 40 per cent of the parcels were addressed to interior places where there are no Japanese post-offices, and were, therefore, sent to this agency to be forwarded to their destinations by the Chinese Imperial post-office. I handle this mail solely for the convenience and accommodation of Americans in interior places, for if I did not do it the parcels would be returned to the senders.

During the period under review only 14 parcels were sent from Shanghai through the Japanese post-office by parcels post to places in the United States, while this agency sent 5,472 registered parcels with an average weight of 2½ pounds, although the senders could have saved from 10 to 20 cents United States gold on each parcel by sending through the former channel.

ADVANTAGES OF OTHER NATIONS.

The British post-office at Shanghai reported the following at the end of the British fiscal year of 1907: Parcels received, 24,262; parcels dispatched, 19,290. This large number of parcels received is a great boon to British subjects in China, who can get small quantities of necessary merchandise from home, and it represents a considerable trade for the merchants at home.

Upon making inquiries at the imperial maritime customs it was ascertained that next to the British post-office the Germans pass the largest number of parcels, the number averaging from 300 to 400 per each German mail, and their mail service is fortnightly. The limit of weight per parcel is 22 pounds.

The French post-office received 9,410 parcels and dispatched 8,604 during the French fiscal year of 1907. The French limit of weight is also 22 pounds.

A comparison of the foregoing statistics shows the great advantage which the subjects of other nations have over American citizens in the facilities for getting parcels from home and sending parcels to their friends in the home lands. It is true that by every mail we receive a few parcels by parcels post from Honolulu, and this privilege is greatly appreciated. I think that it will be generally conceded that this postal agency is of the greatest importance to the business community of Shanghai, and anything that can be done to improve the service for American merchants will be in the interest of trade. Our people need every possible facility for competing with the merchants of other countries.

UNITED KINGDOM.

INTRODUCTION OF COLLECT ON DELIVERY PARCELS POST FEATURE.

The British Board of Trade Journal makes the following official announcement of the inauguration of a "collect on delivery" system for the shipment of packages by parcels post from the United Kingdom:

To increase the facilities for trade in small articles within the empire, the Postmaster-General has been in negotiation with certain of the colonies and dependencies for the establishment of a mutual cash on delivery system. Under this system goods can be posted from this country and the money collected for the vendor by the post-office at their destination, and vice versa.

The first of these services was brought into operation on June 1, 1908, and is available between the United Kingdom and Egypt, Malta, Cyprus, and the British post-offices at Constantinople, Smyrna, Beyrout, Salonica, and Tangier. In outline the procedure is as follows: The vendor takes his packet to a post-office, fills in a form, and pays a special fee of 2d. (4 cents). He is given a certificate of posting, which he ultimately restores to the post-office when receiving the cash.

The post-office collects from the addressee the value as stated by the vendor in the form, and remits it by money order or postal order to the vendor, after deducting whatever may be the commission on the money order or postal order itself, in addition to the delivery fee.

The chief restrictions are that the sum to be collected (the "trade charge") must not exceed 20l. (\$97.33), that the system is confined to goods sent in fulfillment of an order, and that the goods must be sent by parcel post unless they are registered or insured.

Detailed information concerning this cash on delivery service may be obtained at any post-office. It will also be given in the July number of the Post-Office Guide.

LARGER PACKAGES TO BE SENT FROM UNITED STATES AT LOW RATE.

A new arrangement will shortly go into effect with the United Kingdom which will raise the limit of weight for parcels transmitted through the mails between that country and the United States from 4 pounds 6 ounces to 11 pounds. The new rate will be 12 cents per pound.

AMERICAN BOOKS IN ENGLAND.

OBSTACLES TO THEIR GENERAL INTRODUCTION CAN BE OVERCOME.

The following information concerning American books in England and the means to be taken to increase their sale in the Kingdom is furnished by Consul J. Perry Worden, of Bristol:

American books are seldom seen amid the flood of publications in the English book world, and some works well known in the United States, particularly encyclopedias and certain books of reference, are practically unknown here. The cause for this failure of Americans to be properly represented in a market, which, considering the common English language, should always be accessible to them, is due, in part, to certain English conventionalities and traditions, but quite as much or more, it is to be feared, to want of American effort in this direction.

An obstacle of long standing to the introduction of American books in England, is the objection of many English people to American spelling, seen in such simpler forms as "color" for "colour," "program" for "programme," "check" for "cheque," etc., and it must be admitted that with thousands of readers this objection has not been eradicated, although it has been partially overcome by natural causes, such as travel and personal contact with Americans.

Some American publishers, notably one having a prosperous branch house in London, go after English trade by printing their books according to the orthography demanded in England, knowing that the average less susceptible American will not care which of the two spellings is used.

It is encouraging to note that there is far less prejudice than formerly against American books and their contents, as the great popularity in England of some American authors, who have caught the public fancy, substantiates.

HOW TO INTRODUCE AMERICAN BOOKS. .

Few undertakings in the United States are better represented in American advertising columns than the publishing of books, and why the enterprising American publisher, so ready to lavish his money for developing and holding his home market, should fail to include such a great field as that of the British Isles, is hard to understand. Even in London, American books are conspicuous by their absence, and in the provinces it is almost impossible to obtain even announcements of them. Well-known and long-experienced booksellers in Bristol and other equally important cities complain of the serious difficulty they encounter, after they have received the announcement of an American book, to learn who carries it in stock in London.

It seems to be the fact that American publishers often wait until they are sure a book is successful at home before sending any copies abroad, and then, when perhaps it is too late to secure an English copyright, they ship a couple of hundred copies or sets to some English publisher, sending the same in sheets and allowing the local agent to put his own imprint on the title page, to bind it up as he chooses, and to advertise it how and when he may; or, they ship an equally limited number of copies, bound and complete, but not hav-

ing the name and address of the English distributing agent anywhere on the copy.

What is needed, in the opinion of several of England's best-known bookmen, is a return to the old custom of printing the name of the foreign bookseller, as well as the original American publisher, on the title-page of the first and all subsequent editions of the work. If American publishers will do this, and will more extensively advertise their books in England, giving the address of the English dealer, and showing the English trade clearly where it may obtain the books in question, they will rapidly build up a body of patrons here well worth having.

Even in cases where American houses have branches of regular selling agents, it happens sometimes that a book issued by a firm in America is sold in sheets to some entirely different house in Great Britain than ordinarily, and in the absence of definite announcement as to who has the work wanted, bookseller and librarian may search and correspond for weeks in an endeavor to get hold of it.

DISTRIBUTING BUREAU RECOMMENDED.

While two or three American publishers are likely to continue to maintain their own establishments in England, one way of meeting this difficulty in the distribution of American books to the English trade would be for the majority of American publishers to organize a central bureau or bookshop, for American books, on somewhat the same lines as the "Bibliographisches Institut" in Leipzig. All American publications, having a prospect of sale in England, could be sent there, and thence distributed to dealers in the metropolis and the provinces, and the cost of maintaining such a cooperative central book-store could be realized by a percentage assessed on the amount of shipments or sales.

When these problems of adequately announcing in England the publication of American books, and of rapidly delivering the same to the English trade, are solved, the American publisher need hardly concern himself about anything else unless it be the adaptation of price to the English scale. As a rule, books are sold somewhat cheaper here, a volume listed at \$1.50 in the United States being offered for five shillings, or about \$1.25 here.

Generally speaking, American books are well bound, particularly in cloth, but English book-lovers are fond of elaborate leather bindings, and in any case like a method of manufacture that permits the book to be easily opened without "breaking the back;" and it would be well for the American publishers to note that one firm of English binders which controls a patent for such durable binding sends very large quantities of books, especially popular fiction, to the public libraries in the United States, thus competing with American binding, solely because of the merits of its process as a guaranty of durability. If, in addition, American publishers would take pains that works dealing with travel in England, American criticism of English life, institutions and literature were made known to the English public, and would not trust for announcements merely to a few reviews, but employ an agent of up-to-date ways and ideas, such literary endeavors as the recent books on London and other English towns, by an American author, would have still greater vogue.

OPENING FOR ENCYCLOPEDIAS.

There is one class of books, in particular, which Americans publish successfully at home, and with which they do practically nothing here, where the field should be excellent. This class includes encyclopedias and special books of reference, which, partly because of their nature, and partly because of the price at which they must be sold, can not be distributed so well through a lukewarm agent, but must be pushed energetically by the publishers, or their more immediate representatives. For example, there is an American encyclopedia having a national circulation in the United States which is entirely unknown here in either the trade or in public and private libraries. The work in question, however, is in some respects by far the best which has ever been issued in the English language. The breadth of treatment of this encyclopedia, its up-to-date revision, and its attractive letterpress, should make it very acceptable to the cultured Englishman, while its price is not at all prohibitive, English people buying, on the average, more expensive books than Americans, although it must be admitted that a lesser number of private families in England seek to own such encyclopedic works than in the United States.

All that is needed, perhaps, is an energetic representation of the work by a refined and intelligent agent, man or woman, able to remain for some months in such a city or vicinity, and to call personally upon representative people at their convenience. Such a great literary and publishing work speaks well, not merely for American enterprise, but for American culture, and it is unsatisfactory to the American, desirous of obtaining for his country and people all the recognition to which they are entitled, never to see such publications in evidence here, and never to meet a cultured Englishman who has heard of them. Even large publishers, importers and exporters of books, seem never to have received an announcement of publications that are known in nearly every American household.

WORKS OF REFERENCE.

What is true of this extensive encyclopedia would probably be true of various special American books of reference—statistical volumes, and illustrated and descriptive works on the United States. The professional man, journalist, and traveler will always be glad to know of or secure such books as these, knowing well that books of reference on America, published recently in the United States, will be most likely to be authoritative, and to contain statistics and other information not found in the best of foreign annuals. The growing use among English newspaper publishers of half-tone illustrations must naturally increase the demand among journalists for illustrated portfolios of American scenery and life.

The frequent application to a consulate by professional people for certain information, found only in American books of reference, and often only in volumes embellished with late pictures of familiar life in the United States, indicates that there is a field here for American publications that might well be supplied by the professional American publisher, establishing his agencies and agents in England, or by the enterprising individual agent, perhaps some young and energetic college or university man or woman entering English territory on his or her own responsibility.

AMERICAN TEXT-BOOKS.

POSSIBILITIES FOR THEIR INTRODUCTION IN BRITISH ISLES.

Consul Worden, in a subsequent report, makes these suggestions on the possibilities of more extensively introducing American-made text-books into Great Britain, especially in conjunction with the proposed visit of American school-teachers there:

Some four or five hundred American school-teachers from various States of the Union will visit Great Britain this year, beginning with a small party scheduled to sail from New York in the autumn. Considering that the United States leads England and Scotland together, in variety and total number, in the production of school and college text-books, and that without doubt many British teachers, seeking the best, would be glad of at least a wider acquaintance with American publications, it would seem that some arrangement might be made with those in charge of the movement whereby American text-books, or at least those likely to be imported into Great Britain, could be represented.

Such an exhibit of the combined product of American pedagogy and American bookmaking might not only advance American trade, but lead to higher results on the part of the British teacher. A certain amount of reluctance, perhaps, due in part to American orthography and in part to content, emphasizing, as it sometimes does, the American point of view, may be expected, but no occasion could be more opportune for overcoming this than in this proposed personal touch of American and British teachers.

BUSINESS PROCEDURES.

It must be expected, also, that the greater cost of production of books in the United States, due in part to the difference in the price of labor in the two countries, will operate to make a selling price too high for Great Britain; but as American publishers have often made a lower price for books or magazines offered here, it is possible that this difficulty could be surmounted, although the margin in schoolbooks is small.

Two or three plans might be adopted to attain the end suggested. American publishers might combine to secure one or two impartial agents who would accompany the teachers, make such a display of books in each town visited as would be practicable, and distribute advertising matter pertaining to the publications; or agents might be employed to distribute the advertising alone, confining any further display to book-agents' samples, specimens of illustrations, text, binding, etc. Should this prove too expensive, or should there be objections to an outsider accompanying the teachers, it is possible that arrangements might be made whereby certain teachers could represent the publishers, confining their efforts, perhaps, strictly to making known the publications and the headquarters for obtaining the same, together with the advantages of a particular text or method over earlier or out-of-date publications, and not trying to effect any sales. American publishers might also increase their advertising of American text-books during the period in which the teachers will be here.

While differences of opinion will always exist as to books and methods, it can not be denied that Americans have published many valuable works for schools and colleges. In the modern language

field Americans are among the leaders in the variety and quantity of publications. Books designed for the study of German, French, Spanish, and Italian published in the United States are almost invariably equipped with practical notes and well printed and bound. Now that the study of modern languages, and especially German, is becoming more general in Great Britain, a good field should be found here for American-made text-books. Likewise, in modern history, the natural sciences, nature study, etc., Americans have either led others or have produced results of which they need not be ashamed. It is doubtful, for example, if any publishing house of any country has ever issued a better-printed and better-illustrated school history of England than was recently published in the United States, while few countries offer such opportunities for nature study and the use, outdoors, of the many delightful American text-books dealing with fields and woods.

Should it be possible to make such a display in Great Britain of American school and college books at a time when the British pedagogical mind will again be directed to American institutions, it would doubtless give another incentive to the establishment in London of better and centralized agencies for the supply of American books in general.

PATENTS AND TRADE-MARKS.

JAPAN.

PROTECTION FOR PATENTS, TRADE-MARKS, ETC., AT GRAND EXPOSITION.

In reply to a communication concerning the protection of patents, trade-marks, and designs of Americans participating in the grand exhibition of 1912, Consul-General Henry B. Miller transmits the following communication from the director-general of the exhibition:

According to the provisions of the present patent law, article 15; the design law, article 22; models of utility law, article 20, and trade-marks law, article 20, when notice is given to the patent office, before installing such articles in the exhibition, if application for patent or registration has been made within six months from the day of receipt of said article at the exhibition, such application shall have the same validity as if it had been filed on the same day as the original notice. From this it will be seen that there will be no danger for any invention, installed in the exhibition, to be regarded as "publicly known," which on that account will properly insure the right of the inventor, while with regard to designs, models of utility, and trade-marks, after one has given notice concerning them to the patent office, as aforesaid, he shall enjoy a prior right to them. So that by enforcement of these laws we feel that a proper protection for foreign exhibits is already assured. But in order to render the right of foreign exhibitors more secure, and also to make it easier for them to send articles for exhibition, the Imperial Government introduced in the present session of the Diet a bill bearing on the following heads, which has already passed the House of Representatives:

1. A person having an article which is to be exhibited at the Grand Exhibition of Japan, who applies for a patent on his invention or for registration for designs, models of utility, and trade-marks before installing the same, and obtains patent or registration afterwards, shall have the same protection as if such exclusive right had been granted on the day when the installment was made.

2. According to article 38 of the present patent law, if the patentee, without proper reason, has not worked or exploited his invention in the Empire within three years from the date of his patent, or discontinues working or exploiting the invention in the Empire for more than three years, and has refused the offer of a third person to purchase or use the invention on reasonable terms, the director of the patent office may revoke such patent. But in case such patented articles are exhibited at the Grand Exhibition of Japan the patentee

shall be regarded as if he had worked or exploited his patented invention in the Empire during the time such articles are on exhibition.

3. In connection with the importation and exhibition of articles which are imported from foreign countries to be exhibited at the Grand Exhibition of Japan no suit prescribed in the laws and rules relating to patents, designs, models of utility, and trade-marks, or no prosecution can be brought against the exhibitor for infringement of the rights which are protected in said laws.

[A copy, in English, of the laws and rules relating to patents, designs, and trade-marks is filed in the Bureau of Manufactures.]

BRITISH INDIA.

REVISION OF PATENT SYSTEM IS PLANNED—INVENTIONS FOR PAST YEAR.

In reviewing the operations of India's patent office for the past year Consul-General William H. Michael states that an improved law is contemplated. He writes:

The recent report of the Government on the patent office at Calcutta states that there were 615 applications made during 1907 for leave to file specifications, and that 508 specifications were actually filed. The total number of applications under the Inventions and Designs Act V of 1888 was 8,959 and of specifications 6,916. The range of inventions for which protection is sought is said to be as usual very wide, and as in previous years, the railway and textile industries predominate.

One or two applications are said to deserve particular notice. One specially mentioned is that of an inventor in this country, who, in spite of apparently insuperable difficulties, both theoretical and practical, has attempted to produce a legible record of speech by a combination of telephone and typewriter with electric selecting mechanism for the various elementary sounds, but he has been unable to complete his application. Drinking tumblers made of ice, a motor car driven by hand power, and the usual perpetual motion are said to be other proposals of varying interest. In regard to applications for the registration of designs there were 34, of which 25 were allowed and 5 refused, the remainder now pending or abandoned. Several applications relating to religious tokens or ornaments are said to have come from Delhi and Madras. The Madras trade appears to have been started by converting into jewelry French 5-franc gold pieces and it is reputed to have grown considerably in consequence.

The amendment of the Indian patents act so as to bring the system of protecting inventions and designs more into line with the practice in England is in hand and a draft bill is under preparation. The bill will shortly be ready for examination, and when the necessary sanction has been obtained it will be submitted for the criticism of the manufacturing public.

HONGKONG.

DECISION INVOLVING TRADE-MARKS ON FLORIDA-WATER BOTTLES.

Consul-General Amos P. Wilder, of Hongkong, states that a recent decision involving trade-marks on Florida water has given rise to much diversity of opinion in that Asiatic city, and outlines the case as follows:

Certain merchants were charged with applying a trade-mark to bottles of Florida water in imitation of a well-known brand. Being

a criminal case, the prosecution was in the hands of the local British attorney-general. The chief justice, in summing up, said there was no suggestion in the prosecution that the plaintiffs claimed the right to the exclusive use of the name Florida water. Florida water in Florida-water bottles was common property. He was disposed to go further and to say that floral designs were also common property in regard to Florida-water labels, the whole idea being to convey the meaning of extract of flowers. The alleged imitation carried floral scroll work with two Chinese girls, whereas a fountain is the dominant figure in the original mark. The jury, in deciding whether the labels resemble each other, were to take into consideration the general device of the two labels and on that decide whether they resemble one another. They were to treat that question as reasonable men. Referring to the words "Florida water" on the labels, it was noted that the type was absolutely identical and its position was the same on both labels. The jury were to consider whether any one of themselves or of their household would likely be deceived by the imitation.

The jury of 7, after twelve minutes' consideration, returned a majority verdict of 6 to 1 for the defendant. The chief justice protested against the decision and refused to award costs.

DENMARK.

PENALTIES FOR USING INCORRECT DESCRIPTION OF GOODS.

In answer to an inquiry from the National Association of Manufacturers, Consul-General Frank R. Mowrer, of Copenhagen, transmits a translation of the Danish law relating to the incorrect description of goods offered for sale in that Kingdom, of which the following are the principal provisions:

The person who sells or offers for sale goods for consumption or for resale in Denmark, on which or on the labels or packing of which a description is made, which either contains an incorrect indication as to the place of production, the kind, the substance or the mode of manufacture of the goods, or is of such a nature that it is apt to give a wrong idea in any of the above-named respects, or fraudulently indicates that the goods have been rewarded at expositions or supplied with certificates or recommendations from authorities, or that the goods are or have been the object of a Danish patent, unless the indication was correct, at the time the description was made, is liable to a fine from 50 to 2,000 kroner (\$13.40 to \$536); for repeated offenses the punishment may, under aggravating circumstances, be extended to imprisonment.

The person who has sold goods for consumption or for resale in Denmark, on which goods or the labels or packing of the same any of the above-named incorrect descriptions have been made, shall (if the buyer at the time he bought the goods was not informed of the incorrect description), be obliged to take back the goods and refund the sum paid; and, if he by the sale has been liable to punishment according to the above provisions, he shall furthermore, according to the usual rules, compensate to the buyer the loss resulting from the sale.

The person fined, if the goods offered for sale are still in his possession or are at his disposal, shall be required by judgment to remove, or by a distinct and durable addition alter the incorrect description, or, if the goods are not manufactured in Denmark, he can export them to the country of origin if he should prefer to do so, instead of correcting the description.

The person who fraudulently indicates on a signboard, or in advertisements, or invoices or other trade documents, that he has received rewards at expositions, recommendations or certificates from authorities for goods manufactured or sold by him, or that he is the holder of a Danish patent or dealer in goods, protected by Danish patent, shall be fined up to 500 kroner (\$134).

[A complete copy of the law is on file in the Bureau of Manufactures.]

GERMAN COLONIES.

LAWS OF THE EMPIRE APPLY—REGISTRY AT BERLIN REQUIRED.

An American firm having made inquiry regarding the protection of trade-marks in German possessions, the following information from Vice-Consul Ernest Vollmer, at Tsingtau, will be of interest to exporters:

According to paragraph 4 of the imperial orders of November 9, 1900, regarding laws in the German colonies, the law of the German Empire for the protection of trade-marks of May 12, 1894, is in force in the German possessions. Registry of trade-marks is made and the register kept by the Patent Bureau in Berlin. Notice of the establishment of a trade-mark must be made to that office in writing. With every such notice there must be a description of the business in which the proposed mark is to be used, a description of the goods which it is to mark or accompany, as well as a clear copy and description of the mark, as far as these may be deemed necessary. For every trade-mark a fee of 30 marks (mark=23.8 cents) is to be paid upon giving the notice.

TURKEY.

FEES FOR PROTECTION FOR A TERM OF FIFTEEN YEARS.

The Trade Journal of the British Chamber of Commerce of Turkey states, for the information of British manufacturers, that it is possible for them to register their trade-marks in Turkey. The following fees afford protection for fifteen years: £T 10 (£T=\$4.37) for registering one mark; £T 16 for two marks at the same time; £T 21 for three marks at the same time. There are other small charges in connection with the registration. The British Chamber of Commerce at Constantinople are willing to recommend an agent through whom it is desirable to register the marks.

FRAUDS IN CURIOS.

ADVICE TO AMERICAN TOURISTS WHO ARE SEEKING ANTIQUES.

Supplementing the consular report from Belgium one year ago, warning American tourists against the purchase in Europe of so-called "antiques," Consul Maxwell Blake sends from Dunfermline the following advice pertaining to Scotland and to the "Old World" generally:

As the summer season approaches, in anticipation of the usual annual influx of Americans, many of whom continue under the delusion that all things in this country are as old as its history, the growing legion of so-called "antique" dealers, from cities to remote villages and unfrequented farmhouses, are now occupying themselves in arranging for display their various stocks of made-to-order antiquities.

It ought by this time to be known to even those of little experience that the genuine antique, providing it has originally possessed something more than age alone to consecrate it, has long ago passed out of the market as an article to be cheaply and haphazardly bartered for. This on the contrary seems to be a fact that is anything but generally

known, especially to the average American abroad, in whose lack of knowledge of such things lies the security from punishment and the profits of the fraudulent miscellaneous antique dealer.

MAKING ANTIQUE GOODS.

Thus, largely as the result of American demand—a demand that has long outgrown the supply, and which has increased with the disappearance of the genuine antique—such irresistible opportunity and reward has been offered the forger that now, thanks to his productive industry, there is both abundance and variety of supply again of “antiques” executed with all degrees of skill, varying from the crude products of amateurs to others of such pretentious workmanship as often to puzzle the connoisseur himself.

Rare old-period furniture, given the gloss and appearance of age by constant rubbing with bone and pumice stone; old hand-rolled copper plate, which has not been made since 1840, a most favorite article of deception, over 1,000 pieces of which have been lately examined without finding half a dozen genuine specimens; Spanish ivories, skillfully “aged” brown by acids; first-state engravings and prints; Queen Anne silver, superstructures of which are built up upon the handle of an old spoon bearing genuine marks; “old” Bristol and Waterford hand-cut crystal; and that particular kind of china which is in most momentary demand, whether it be Oriental blue and white, or Lowestoft, abound everywhere in such wholesale lots as one would think should alone serve to excite the suspicions of any thoughtful person.

COLLECTIONS AND COLLECTORS.

In the preparation of this article visits were paid to scores of “antique” shops, from a few of the more trustworthy ones in the large cities to those of the smaller and more cunning and less suspected ones in near-by villages and along motor-car highways, the latter establishments generally conducted by some “interesting old character” who sat smoking his pipe indifferently, offering his wares in some basement difficult of approach, the windows of which were conventionally screened by a thick net of cobwebs.

The first delusion to be got over is the rather prevalent idea that this fad of collecting, or the actual love for antique objects, is something peculiar to the people of the United States, who are supposed to put greater store upon the possession of such things than is common abroad. This is a misconception. On the contrary, throughout Great Britain, and even more so on the Continent, collecting has been a passion since the eighteenth century. The British Isles have been searched up and down from door to door by experienced collectors for upward of fifty years, and not being large geographically the thoroughness of the search shows the remote likelihood of picking up something good for little money at this late day during a few weeks of a summer sojourn abroad.

Don't look for bargains in antiques. If one wants genuine things he should visit a dealer of recognized standing and reliability, for there are a few such; pay him his price, which is sure to be high, and purchase only upon his written guaranty that the article is as represented, genuinely old and actually of the period. One can not become a judge of antiques by reading a few books, and if a person has neither the means to buy, nor the experience necessary to select what is really

worth purchasing, it is far more satisfactory to buy first-class reproductions; the latter are what one generally finds in the average "antique" shop at more than twice their actual value.

REPRODUCTION OF HISTORICAL OBJECTS.

Beware of buying Robert Burns chairs, and Mary Queen of Scots tables and all such things. It is safe to say that they are spurious. Beware especially of Sheffield plate; it is practically all modern, or old pieces plated over, which completely destroys its value as an antique. Buy the new as such at one-half the prices asked for it by the "antique" dealer.

Beware also of engravings and prints. Many reproductions of old prints are made by artists of great ability, with no intention at deception. Some of these I have lately seen in antique shops, artfully "aged" and hung in old frames, the unscrupulous dealer asking four or five times the price the prints can be purchased for of the publishers. Crystal and china are also made in the old shapes and often in the actual molds of a hundred years ago; these are legitimate reproductions. It is the so-called "antique" dealer who buys them up and offers them to the unsophisticated as genuine.

EXPOSITIONS AND CONVENTIONS.

BELGIUM.

ARCHEOLOGICAL CONGRESS AT LIEGE.

Consul H. Abert Johnson advises that the Belgian archeologists and historians will hold a congress at Liege during the month of August, 1909, concerning which he says:

The organization of this meeting has been intrusted by the Archeological and Historical Federation of Belgium to the Liege Historical Society and the Archeological Institute of this city. These societies have selected a committee to direct the congress, composed of the following prominent men: Professors Julien Fraipont, of Liege, and Godefroid Kurth, of Rome, as presidents; Max Lhoest and Schoolmasters of Liege, as vice-presidents, and Joseph Brassine, sub-librarian at the Liege University, secretary of the Historical Society, together with Lucien Renard-Grenson, secretary of the Archeological Institute, as general secretaries.

The congress will coincide with the official opening of the Museum of Archeology, which will be installed by that time in the "Maison Curtius," an old and historic mansion, now the property of the city.

AMERICANS INVITED TO JOIN IN ADMINISTRATIVE CONGRESS.

Baron Moncheur, Belgian minister at Washington, advises the American Government that on the occasion of the Universal Exposition of 1910 there will be held under the patronage of the King's Government at Brussels an International Congress on Administrative Sciences. He invites official delegates to this meeting from this Government, and suggests the creation in this country of committees to participate by securing reports and papers bearing on the programme of the Congress, etc. The topics to be discussed will embrace municipal administrative services, police, hygiene, finances, charities, means of communication, æsthetics of cities, preservation of sites and monuments, economical expansion, and industrial services,

ITALY.**INTERNATIONAL DISPLAY OF THEATER ARTICLES.**

Consul James E. Dunning advises that an international exhibition of theater articles will be held at Milan in 1918 and believes it to be a good chance for the American manufacturer in this line to bring his stock before the public and create a demand for his goods in Europe. Inquiries may be addressed to the Esposizione Industriale Permanente, Comitato Esecutivo dell' Esposizione del Teatro, Corso Vitt. Emanuele 24, Milan, Italy.

AMERICAN PUBLISHING ENTERPRISE.**ENGLAND AFFORDS A GOOD FIELD FOR CANVASS OPERATIONS.**

Consul J. Perry Worden, in a report from Bristol, says that the success of one American firm manufacturing stereograph views in introducing their apparatus and pictures into England, a quarter of a century after the stereoscope was popular there, is evidence of the fact that much depends on the manner in which an article is offered for sale and who are selected for its introduction. This leads the consul to submit the following suggestions as to trade canvassing:

It is a new proof of the interest of many English people in American life, particularly, perhaps, in the American world of nature, and that if American publishers would increase their efforts to place before the traveling public here those features of American landscape and familiar life characteristic of the New World they would, notwithstanding the reluctance of some to take "things American," be well rewarded for their pains.

The stereoscope publishers have divided their views into groups according to countries or cities or special localities, prepared a descriptive text-book for each book, and devised a map to accompany the views and texts. Educational institutions, libraries, and prominent men and women are among the patrons of these American stereoscopes, and, although one set of views and a stereoscope may be had for as low as \$2, some orders range from \$50 to \$1,500.

American publishers of illustrated books dealing with scenery and everyday life in the New World would also do well in Great Britain if they would but make their publications better known.

This stereoscope trade is conducted solely by personal solicitation on the part of special, selected agents. Care seems to have been taken to get men of refinement, and often of considerable culture, and Americans themselves have sometimes taken the field here. One man, a college graduate, cleared amounts varying from \$496 to \$1,068 in several successive months.

Without doubt there are other publications and ventures of this sort that might be as successfully introduced into England. American college students of culture, tact, and push—particularly those students already having some knowledge of England and the English—should do well for a summer with a strictly high-class American publication, especially one dealing in an up-to-date manner with American life.

FOREIGN CENSUS STATISTICS.

UNITED KINGDOM.

DECLINE IN THE BIRTH RATE IN SCOTLAND—INCREASE IN MARRIAGES.

Consul Maxwell Blake, of Dunfermline, in advising that, according to statistics, the birth rate of Scotland has shown a steady annual decline for the past forty years, summarizes the vital records of the country as follows:

In reviewing the annual report of births, deaths, and marriages registered in Scotland during the year 1907, I find that the estimated population of Scotland is given as 4,776,063, of whom 2,331,907 were male, and 2,444,156 female. This is 49,993 more than the population of Scotland in 1906, the increase of the males being estimated at 26,057, and that of females 23,936. The estimated population of the principal town districts is 34,984 more than the previous year, that of the large town districts 6,606 more, and that of the small town districts 10,019 more; but that of the mainland rural districts is 984 less, and that of the insular rural districts 632 less.

In 1906 the birth rate was the lowest ever recorded in Scotland. The birth rate for 1907 was even less, as the total number of births of living children registered in Scotland during last year was 128,789, or 3,131 fewer than the births registered in the previous year, and 858 more than the average number of deaths registered during the previous 5 years. The death rate of the year was 16.18 per thousand of the estimated population, a rate 0.19 more than that of the previous year.

The total marriages registered in Scotland during the year 1907 numbered 33,260, or 137 more than registered in the previous year, and 1,170 more than the average annual number registered during the previous five years.

BRAZIL.

POPULATION OF THE FEDERAL DISTRICT—FOREIGN RESIDENTS.

Consul-General George E. Anderson, of Rio de Janeiro, gives the following summary of the census of the Brazilian Federal District taken on September 20, 1906, and just published:

The total population of 811,443 compares with 522,651 in 1890, and 266,831 in 1872. The males number 463,453, and the females 347,990. The suburbanites number 183,402, the balance living in Rio de Janeiro proper. The foreigners number 210,515, of which 133,393 are Portuguese, 25,557 Italians, 20,699 Spaniards, and 2,575 Germans. The number of persons over 100 years of age is given at 182, one being 138 and one 130 years old. The number of buildings of all kinds is placed at 84,375.

BOLIVIA-BRAZIL BOUNDARY.

JOINT COMMISSION AT WORK ESTABLISHING DIVISIONAL LINES.

Consul Edward J. Norton, of Asuncion, reports that the party of commissioners and engineers appointed by the Bolivian Government to cooperate with a similar commission from Brazil in establishing the boundary lines between the two Republics, passed through

the Paraguayan capital in May en route for Corumba in the State of Matto Grosso, Brazil. The chief engineer of the Bolivian party is from the royal artillery of the British army, who was especially appointed by his Government to accompany the expedition. In order to determine the boundaries between Bolivia and Brazil these parties will be obliged to work through an extensive zone of unexplored and unknown territory, and their work will undoubtedly attract considerable attention, as the region to be mapped out is supposed to be very rich.

BRITISH TERRITORIAL ADDITION.

SIAMESE STATES TAKEN OVER BY THE BRITISH GOVERNMENT.

Vice and Deputy Consul-General George E. Chamberlin, of Singapore, reports that, according to a Reuter dispatch, the States of Kelantan and Tringanu, in the Malay Peninsula, have been taken over from Siam by the British Government. The two States cover an area of between 8,000 and 9,000 square miles. In Kelantan there are valuable British interests, one British company owning a concession of some 2,500 square miles therein. The State is believed to be rich in gold and tin, and rubber growing has met with success. The State of Tringanu is practically untrodden ground for Europeans. There are no roads, and the principal river, the Tringanu, is rendered useless for navigation halfway on its course to the sea by a series of large waterfalls. Tin is known to exist in the south of the State.

BOOKS IN LATIN AMERICA.

AGRICULTURAL LITERATURE BECOMING QUITE POPULAR.

Consul E. H. Plumacher states in a report from Maracaibo that during the last few years the South American people have found out that their future lies in the development of their agricultural resources. The people are eager to study agriculture and become better acquainted with the tilling of the soil. Everywhere agricultural societies are being formed, and books and magazines on this subject are much sought after. Some magazines printed in Spanish in the United States are becoming quite popular in Latin America, and are good advertising mediums for reaching the consumers.

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FOREIGN WEIGHTS AND MEASURES

The following table embraces such weights and measures used in foreign countries as have been collated from reports of consular officers and other sources:

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS.

Denominations.	Where used.	American equivalent.
Almude.....	Portugal.....	4.422 gallons.
Ardeb.....	Egypt.....	7.6907 bushels.
Arobe.....	Paraguay.....	25 pounds.
Arratel or libra.....	Portugal.....	1.011 pounds.
Arroba (dry).....	Argentina.....	25.3175 pounds.
Do.....	Brazil.....	32.38 pounds.
Do.....	Cuba.....	25.3664 pounds.
Do.....	Portugal.....	32.38 pounds.
Do.....	Spain.....	25.36 pounds.
Do.....	Venezuela.....	25.4024 pounds.
Arroba (liquid).....	Cuba, Spain, and Venezuela.....	4.263 gallons.
Arshine.....	Russia.....	28 inches.
Arshine (square).....	do.....	5.44 square feet.
Artel.....	Morocco.....	1.12 pounds.
Barrel.....	Malta (customs).....	11.4 gallons.
Do.....	Spain (raisins).....	100 pounds.
Barril.....	Argentina and Mexico.....	20.0787 gallons.
Berkovetz.....	Russia.....	861.12 pounds.
Bongkal.....	India.....	832 grains.
Bouw.....	Sumatra.....	7,096.5 square meters.
Bu.....	Japan.....	0.119 inch.
Butt.....	Spain (wine).....	140 gallons.
Caffiso.....	Malta.....	5.4 gallons.
Candy.....	India (Bombay).....	529 pounds.
Do.....	India (Madras).....	500 pounds.
Cantar.....	Egypt.....	99.5 pounds.
Do.....	Morocco.....	113 pounds.
Do.....	Syria (Damascus).....	575 pounds.
Do.....	Turkey.....	124.7036 pounds.
Cantaro (cantar).....	Malta.....	175 pounds.
Carga.....	Colombia.....	250 pounds.
Do.....	Mexico and Salvador.....	300 pounds.
Catty.....	China.....	1.333½ (1½) pounds.
Do ^a	Japan.....	1.32 pounds.
Do.....	Java, Malacca, and Siam.....	1.35 pounds.
Do.....	Sumatra.....	2.12 pounds.
Centaro.....	Central America.....	4.2631 gallons.
Centner.....	Bremen and Brunswick.....	117.5 pounds.
Do.....	Darmstadt.....	110.24 pounds.
Do.....	Denmark and Norway.....	110.11 pounds.
Do.....	Nuremberg.....	112.43 pounds.
Do.....	Prussia.....	113.44 pounds.
Do.....	Sweden.....	93.7 pounds.
Do.....	Vienna.....	123.5 pounds.
Do.....	Zollverein.....	110.24 pounds.
Chetvert.....	Russia.....	5.7748 bushels.
Chih.....	China.....	14 inches.
Coyan.....	Sarawak.....	3.098 pounds.
Do.....	Siam (Koyan).....	2.667 pounds.
Cuadra.....	Argentina.....	4.2 acres.
Do.....	Paraguay.....	78.9 yards.
Do.....	Paraguay (square).....	8.077 square feet.
Do.....	Uruguay.....	Nearly 2 acres.
Cwt. (hundredweight).....	Great Britain.....	112 pounds.
Dessiatine.....	Russia.....	2.6997 acres.
Do.....	Spain.....	1.599 bushels.
Drachme.....	Greece.....	1 gram.
Dun.....	Japan.....	1 inch.
Euthek.....	Asia Minor (wheat).....	10.61 pounds.
Fanega (dry).....	Central America.....	1.5745 bushels.
Do.....	Chile.....	2.575 bushels.
Do.....	Cuba.....	1.599 bushels.

^a More frequently called 'kin.' Among merchants in the treaty ports it equals 1.33½ pounds avoirdupois.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Fanega (dry)	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Spain	1.6 bushels.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail	Spain (raisins)	50 pounds.
Frasco	Argentina	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Go	Japan	0.0000817 acre.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	5.965 feet.
Klafter	Russia	216 cubic feet.
Koku (dry)	Japan	5.118 bushels.
Koku (liquid)	do	47.653 gallons.
Korree	Russia	3.5 bushels.
Kota	Japan	5.13 bushels.
Kwan	do	8.27 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,409.2 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11½ bushels.
Do	Spain (salt)	4,760 pounds.
League	Paraguay (land)	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentina	1.0127 pounds.
Do	Castilian	7,100 grains (troy).
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01467 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1½ acres
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82½ pounds.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Honduras and Nicaragua	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.75578 pounds.
Do	Hungary	3.0817 pounds.
Do	Hungary and Wallachia	2.5 pints.
Do	Turkey	2.81857 pounds.
Pic	Egypt	21½ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133½ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentina	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	86 bushels.
Quintal	Argentina	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, a Chile, and Peru	101.41 pounds.

^a Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Quintal	Greece	123.2 pounds.
Do	Mexico	101.46 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5½ pounds.
Sagene	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acre.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9303 inches.
Sho	do	1.6 dry quarts.
Standard	St. Petersburg (lumber measure)	165 cubic feet.
Stone	Great Britain	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.245 acre.
Tierce	Newfoundland	300 pounds.
To	Japan	2 pecks.
Tola	do	180 grains.
Tonde	Denmark (cereals)	3.94783 bushels.
Tondeland	Denmark	1.36 acres.
Tsubo	Japan	35.581 square feet.
Tsun	China	1.41 inches.
Tun	Newfoundland (cod oil)	806 gallons.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentina	34.1208 inches.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	32.992 inches.
Do	Paraguay	34 inches.
Do	Spain	0.99081 yard.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Venetian pound	Greece and Mediterranean countries	1.05 pounds.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.668 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES, WITH EQUIVALENTS.

Units.	Equivalents.	Units.	Equivalents.
WEIGHTS.		LIQUID MEASURE.	
Milligram ($\frac{1}{1000}$ gram)	0.0154 grain.	Milliliter ($\frac{1}{1000}$ liter)	0.0338 fluid ounce.
Centigram ($\frac{1}{100}$ gram)	0.1543 grain.	Centiliter ($\frac{1}{100}$ liter)	0.338 fluid ounce.
Decigram ($\frac{1}{10}$ gram)	1.5432 grains.	Deciliter ($\frac{1}{10}$ liter)	0.845 gill.
Gram	15.432 grains.	Liter	1.0567 quarts.
Decagram (10 grams)	0.3527 ounce avoirdupois.	Decaliter (10 liters)	2.6417 gallons.
Hectogram (100 grams)	3.5274 ounces avoirdupois.	Hectoliter (100 liters)	26.418 gallons.
Kilogram (1,000 grams)	2.2046 pounds avoirdupois.	Kiloliter (100 liters)	264.17 gallons
Myriagram (10,000 grams)	22.046 pounds avoirdupois.	MEASURES OF LENGTH.	
Quintal (100,000 grams)	220.46 pounds avoirdupois.	Millimeter ($\frac{1}{1000}$ meter)	0.0394 inch.
Millier or tonneau—ton (1,000,000 grams).	2,204.6 pounds avoirdupois.	Centimeter ($\frac{1}{100}$ meter)	0.3937 inch.
DRY MEASURE.		Decimeter ($\frac{1}{10}$ meter)	3.937 inches.
Milliliter ($\frac{1}{1000}$ liter)	0.061 cubic inch.	Meter	39.37 inches.
Centiliter ($\frac{1}{100}$ liter)	0.6102 cubic inch.	Decameter (10 meters)	393.7 inches.
Deciliter ($\frac{1}{10}$ liter)	6.1023 cubic inches.	Hectometer (100 meters)	328 feet 1 inch.
Liter	0.908 quart.	Kilometer (1,000 meters)	0.62137 mile (3,280 feet 10 inches).
Decaliter (10 liters)	9.08 quarts.	Myriameter (10,000 meters)	6.2137 miles.
Hectoliter (100 liters)	2.838 bushels.	SURFACE MEASURE.	
Kiloliter (1,000 liters)	1.308 cubic yards.	Centare (1 square meter)	1,550 square inches.
		Are (100 square meters)	119.6 square yards.
		Hectare (10,000 square meters)	2.471 acres.

PUBLICATIONS AVAILABLE FOR DISTRIBUTION AUGUST 1, 1908.

The following publications of the Bureau of Manufactures may be obtained, until the supply is exhausted, upon application to the Bureau:

MONOGRAPHS ON SPECIAL SUBJECTS.

- Annual Report of the Chief of the Bureau of Manufactures, 1907. 19 pp. 1907.
Commercial Relations of the United States for 1903. 2 vols. 1,358 pp. 1904.
England's Cotton Industry. By William Whittam, jr. 54 pp. 1907.
Export Trade Exploitation. 16 pp. 1908.
Foreign Markets for the Sale of American Cotton Products. 215 pp., 1 text fig. 1907.
Machine-made Lace Industry in Europe. 39 pp., 22 pls., 4 text figs. 1905.
Marketing Goods in Foreign Countries. 164 pp. 1905.
Motor Machines. (Part 2.) 144 pp. 1908.
Swiss Embroidery and Lace Industry. By W. A. Graham Clark. 43 pp., 2 pls., 5 text figs. 1908.
Trade Conditions in—
 Argentina, Paraguay, and Uruguay. By Lincoln Hutchinson. 101 pp. 1906.
 Asiatic Turkey. By Charles M. Pepper. 45 pp. 1906.
 Australasia. By Harry R. Burrill. 48 pp. 1908.
 Central America and West Coast of South America. By Lincoln Hutchinson. 113 pp. 1906.
 China. By Harry R. Burrill and Raymond F. Crist. 125 pp. 1906.
 Colombia. By Charles M. Pepper. 53 pp. 1907.
 Japan and Korea. By Raymond F. Crist. 48 pp. 1906.
 Mexico. By Arthur B. Butman. (In press.)
 West Coast of South America. By Charles M. Pepper. (In press.)
Trade of Cuba. (Annual Series, No. 2.) 23 pp. 1908.
Trade of Panama. (Annual Series, No. 3.) 15 pp. 1908.
Trade of Canada. (Annual Series, No. 4.) 92 pp. 1908.
Trade of Haiti and Santo Domingo. (Annual Series, No. 5.) (In press.)
Winning Foreign Markets. Containing suggestions for the extension of trade by American manufacturers and exporters. 256 pp. 1908.

TARIFF SERIES.

- No. 1. Leather and its Manufactures. 27 pp. 1907.
No. 2. Agricultural and Animal Products. 120 pp. 1907.
No. 3. Machinery, Machine Tools, and Vehicles. 75 pp. 1907.
No. 4. Conventional Tariff of Servia, based on Treaties with Great Britain, France, and Italy. 9 pp. 1907.
No. 5. Commercial Agreement between the United States and Germany. 24 pp. 1907.
No. 6. Customs Tariff of France. 108 pp. 1907.
No. 6A. Commercial Agreement between the United States and France. 4 pp. 1908.

- No. 7. Customs Tariff of German Customs Union. 125 pp. 1908.
No. 8. Customs Tariff of New Zealand. 36 pp. 1908.
No. 9. Customs Tariff of Montserrat. 12 pp. 1908.
No. 10. Customs Tariff of Virgin Islands. 8 pp. 1908.
No. 11. Customs Tariff of Bermuda. 4 pp. 1908.
No. 12. Customs Tariff of Saint Lucia. 8 pp. 1908.
No. 13. Customs Tariff of Turks and Caicos Islands. (In press.)

The following tariffs of foreign countries are also available for distribution:

British West Indies. 32 pp. 1905. (2 supplements.)

Canada. 52 pp. 1907.

Cuba. 30 pp. 1905. (3 supplements.)

Mexico. 37 pp. 1905. (2 supplements.)

Newfoundland. 15 pp. 1906.

Philippine Islands. 56 pp. 1905. (1 supplement.)

The United Kingdom and British Possessions in Europe. 14 pp. 1905. (1 supplement.)

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